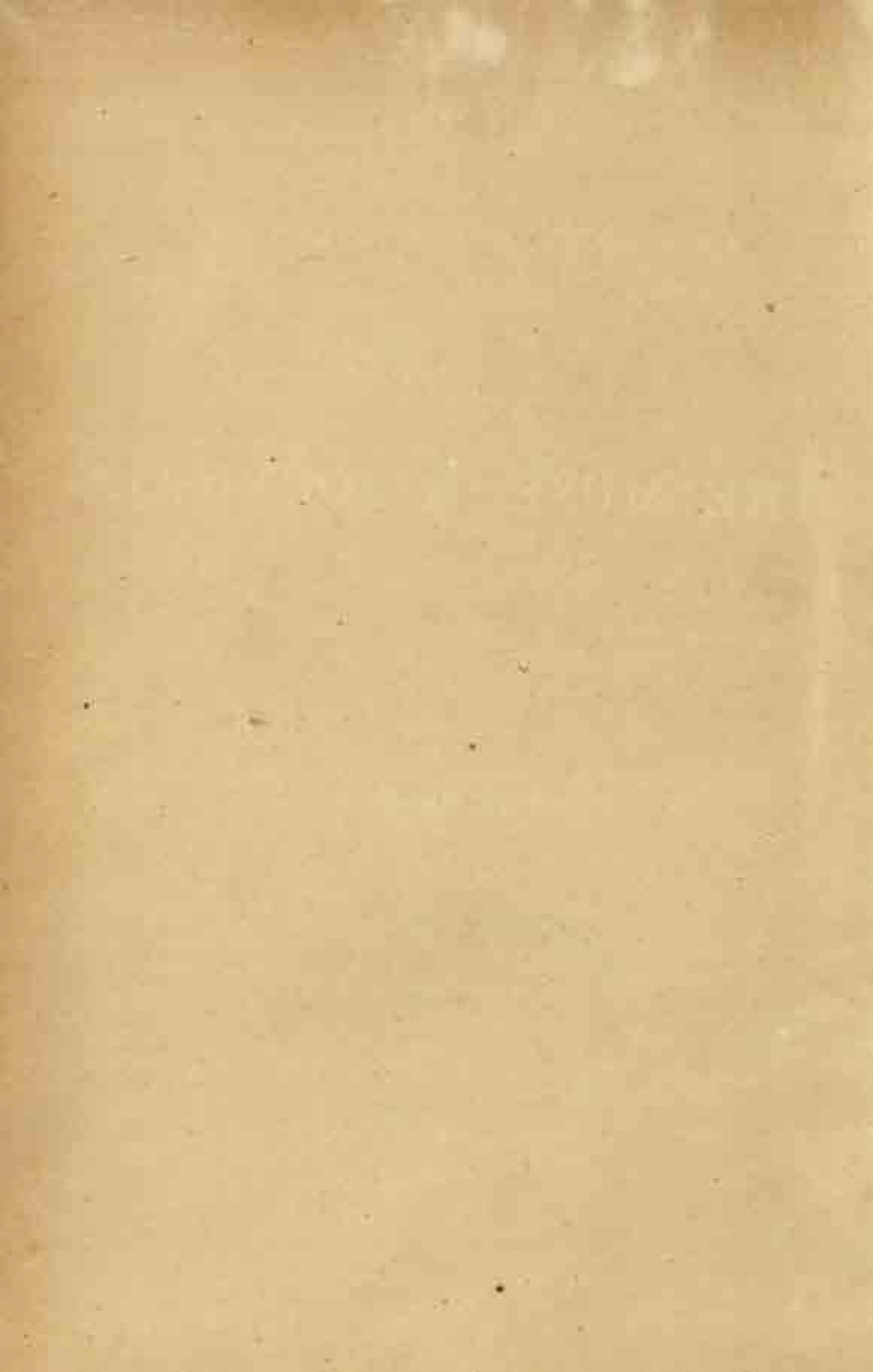


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FOREWORD

The new volume opens with an unusual document. Although its author is already known to readers of the JOURNAL, it is especially in connection with his latest contribution that his identity comes prominently into the foreground and connects itself with his work. The correct spelling of his name is Tlothitckh, which is pronounced Shotridge by white people and for their accommodation and to establish his present relationship with civilization our author has adopted this spelling and pronunciation. His right to the name came to him only upon the death of his grandfather, who owned it and from whom it descended to the grandson. In the meantime the present owner of the name was known among his people as Situwuka, the name given to him at his birth. The name of Louis was also bestowed upon him at the same time by a missionary who happened to arrive at his village the day when he was born, the first missionary his people knew. This name also, as can be seen, has served a useful purpose. All of this explains how the author of the story entitled "Ghost of Courageous Adventurer" is known to us as Louis Shotridge. Among his own people, the Tlingit of Southeastern Alaska, his correct style would be as follows: "Tlothitckh of the Kahguan-taun Clan on the Eagle Side."

Mr. Shotridge has been in the service of the Museum for eight years and during three of these years he resided and worked among his own people, taking notes, recording stories and making collections for the Museum. At this time he obtained many narratives: mythological, legendary and historical, all of which he recorded as he heard them from the lips of the story tellers in his own language. Out of the voluminous literary material thus preserved, he has selected for the present occasion one entitled, "Ghost of Courageous Adventurer," a story which appears to have crystalized about an ancient sword with emblematic character, the most sacred possession of one of the Tlingit clans. This old war relic is now in the University Museum.

The document is unique in many respects. It is presented to us through the medium of a Tlingit who possesses an entire knowledge of his native language and an ability to use English. It preserves

the literary quality and also (as in the transposition of words) something of the grammatical structure of the Tlingit narrative. It appears in a good English dress which does not entirely disguise the spirit of the original. Some loss of force it has undoubtedly suffered, but in this quality it is not lacking.

We have long cherished a belief that a correct interpretation of Indian legend for readers of English could best be made by a native who, though familiar with our habits of thought and forms of expression, still felt stirring within him the passionate appeal of his ancestors. This mental equipment, combined with careful training in scientific methods of observation and record, constitute Mr. Shotridge's chief qualification for introducing us to the unwritten literature of his people.

Listening to an elder tribesman, he recorded this narrative in his native language and afterwards translated it into English, always searching for the forms that convey most faithfully the thought, and reproduce most accurately the style and character of the original idiom. The result is a faithful translation which preserves in some degree the epic character of the Tlingit narrative. Of the literary value of the document there is no need to speak.

At the beginning of 1918 the University Museum installed for a time a special exhibition of the art of the African Negro. Visitors to the Museum then had an opportunity of viewing some very interesting and remarkable examples of sculpture made by tribes occupying the equatorial regions of Africa between the upper reaches of the Congo and Dahomey. A new exhibition is now announced.

From the standpoint of the artist and the student of design as well as for the student of customs, African images present much matter for study, but to make them intelligible they should be examined in connection with the ideas of which they are the expression, and with an understanding of the ends they were made to serve.

These wooden images tell us a good deal about the African Negro and enable us to see what sort of a man he was, this "maker of gods in lands beyond the sea." They hint strongly what sort of body he had and what sort of mind and they indicate in forcible terms what kind of relationship he had established between himself and the rest of the universe. In making his gods in his own image he followed a common practice of mankind, and he went so far in this direction and applied the rule with so much conviction that he insisted in bringing out in his images the physical traits that are

distinctive of his own special type of mankind. He laid stress on those characteristics which we recognize as peculiarly Negro and which he looked upon as essentials of his art, often suppressing the less essential traits of form and feature. In his sculptures he produced types that corresponded to or rather that idealized local types.

In dealing with the human figure he was evidently guided by a rough canon of proportions, which differed, it is true, from the classical and other canons in the history of art, but it differed from the classical canon of proportions exactly as the human type differed. His canon of proportions was not expressed in mathematical terms or based on exact measurements of the relations between different parts of the body, but consciously or otherwise he expressed, in exaggerated terms to be sure, but for that reason with the greater effect, the bodily relations that mark him off as a separate variety of the human species.

The realism of the African artist, when it occurs, is not literal and his naturalism is never extreme. He adapted the living model to his own purposes and used it according to his traditions. He took what he wanted and was not otherwise much concerned with details, and he did not hesitate to suppress what he did not consider essential to his purpose. The whole body of African art is largely selective and symbolic. Its author, whatever his aims, strove not for realism, for he contrived to deliver his message in another way. It is evident that in this purpose he achieved a striking success. His method in part resembles that of the futurist who does not aim at beauty nor yet at truth but at an effect. It is to be noted however that, whereas in the one case the effort is spontaneous and always sincere, in the other it is labored and sometimes insincere.

The method of the Negro sculptor leads strongly in the direction of what we call caricature and the grotesque, but his aim and the way in which his mind reacted to his work are quite different from those which obtain in the case of caricature or in that of grotesque art. His themes and his treatment of them are common to the history of art, but his work is impressed with a strong individuality and with a stamp that marks it as the utterance of a distinctive type of mind.

The functions of his wooden images and their relation to his life are facts not more closely concerned with himself than the quality of his art and the aspect of these images. It is a "national" or racial

or tribal art in the most intimate sense, with all the intensity, the conviction and the limitations that these terms imply. To what extent it is conscious of these qualities it would be difficult to decide and it is singular that though the Negro thinks in concrete terms his work conveys the impression of generalized observation and abstract truth within the limits of his bizarre experience.

To most people who visit the Museum these African images are strange and grotesque. They are apt to see in them the crude workmanship and unlovely conceptions of an uncivilized people. In contrast to this attitude, many artists find in them a powerful appeal, from which they derive agreeable sensations and not a little inspiration. They find them admirable. One of the best known and most successful artists in the City, calling attention to one of these images, said with entire sincerity: "That is the kind of thing that I have been trying to do all my life without success." Other comments couched in less moderate terms were even more prodigal of praise. Such sentiments may seem absurd and disingenuous, but they are neither one nor the other. They represent the spontaneous appreciation of one craftsman for the work of another. Most people who do not doubt the sincerity of such high estimates of African art, will fail to be convinced of their accuracy; yet it is impossible to remain unimpressed by the intelligent enthusiasm of such professions, especially when accompanied by a deliberate effort to create something similar.

We are inclined to think, however, that most of the artists who find inspiration in an African idol, err in attributing the qualities they admire to an elusive technique. It is likely that a better explanation can be found in Mr. Hall's article, which describes the incentive under which the Negro artist works. It is obvious that his mind is the receptacle of a strong conviction and his images are wrought under the influence of a deep and robust belief. It may seem only a childish conviction and it may be that his only belief is in the power of a fetish. It is nevertheless to him a great conviction and a tremendous belief, for a belief in the power of a fetish must be a great fact in a man's life. Work done under the influence of such powerful impulses can hardly be without strength and inspiration.

The disability under which artists work today is not a want of technique or failure to master its principles, but the absence of a conviction of any kind among us and the absence from our civiliza-

tion of anything resembling a belief. With trained eye and sensitive, impressionable mind our modern artist is quick to detect the presence in an African fetish of something which he feels has eluded him in his work; but not knowing the mind of the Negro or the stimulus under which he works, the modern artist fails to appreciate the significance of what he sees.

It requires no special intelligence to recognize in most African carvings of men and animals the uncouth effects of untrained perception, faulty observation and clumsy execution. Few intelligent and sympathetic observers will fail to see in them something more, something that tends to redeem these obvious deficiencies. It is a part of our purpose to try to define the less obvious qualities and help to make the work of the African craftsman intelligible. Our main purpose is simply to exhibit that work as we find it and record what we know of the ideas which it seeks to embody or which we find associated with it.

The Museum does not approve or practice restoration of objects forming its exhibits where damage has been done by time or accident. It is only under exceptional conditions that partial and modified reconstruction is permitted. Such modified reconstruction is applied in certain instances to pottery, as, for example, in the case of Attic vases shown in this JOURNAL. In each of these vases and other similar vases, certain fragmentary parts either contiguous or separate have long been in our possession. The other parts are missing. Using perfect vases in the collection as his models, our skilful artisan is able to build up the entire vase according to type, leaving the surface plain. The parts which, as detached fragments, are difficult to preserve and handle, are thus combined to make them more susceptible of treatment and of much greater service in the exhibits of the Museum. Dr. Luce shows in an article in this JOURNAL, how a complete story may be reconstructed from a few fragments of a vase which has been subjected to this treatment.

Dr. Luce compares ancient bronze helmets in the Museum collection with modern helmets and Dr. Farabee, writing of an Indian wampum belt recently acquired by the Museum, shows how the Indians made treaties and how these belts served important functions and preserved traditions besides their use in certain forms as currency.

EDITOR.



Yenda-Yonk, Tlingit scout, a lineal descendant of Eagle Head. He inherited the sword which gives the title to the story told in the following pages. Yenda-Yonk, who died at a very advanced age in 1912, belonged to the Shungu-kaydi clan and was the last owner but one of the ancestral sword before it came into the possession of the Museum.—*Photo by Winter & Pond.*

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No. 1

GHOST OF COURAGEOUS ADVENTURER

THE arts of the Tlingit Indians follow very closely upon tradition, and having recourse to imagination as well as observation, hand down to posterity many rare conceptions. These arts, as I have stated elsewhere, consist of carving, painting and weaving, by which the mythic tales, the prototypes of animals of land, air and water, and the denizens of the unseen world are represented.

To illustrate these arts, I have chosen, for this article, a war knife. This specimen, although not among the most conspicuous of the many important objects exhibited in the Northwest Coast Hall of the University Museum, has its own story and has in fact a special importance. The knife itself, its name, the material in which it is wrought and everything connected with it have many sentimental associations for the Tlingit.

The blade and guard are made of iron and the pommel of ivory. The grip has an iron core covered with mesh made from the hair of the wild goat. Both the iron and the ivory are said to be the same pieces mentioned in the legend given in the following pages. The ivory pommel is carved like a human skull which represents a ghost, the cavities being inlaid with blue iridescent abalone shell that glows with soft hues. The blade is well hardened metal with sharp edges on both sides, wrought out in one piece with one end reduced like a stem or tang which is driven into the ivory pommel. A separate piece of the iron is shaped to fit the handle end to form a guard. The length of the weapon, from tip to the top of the handle, is fifteen and one-half inches.

I obtained this old knife from the last of Thunder Bird House group of the Shungu-kaydi clan of Chilkat. It was the only object which carried with it to the present day a record of the important

part which the clan took in establishing a trade connection between the northern Tlingit and the alien tribes of the interior. It was the last link with the past and therefore the last thing with which the clan was willing to part.

Chilkat is not the original home of the Tlingit Indians; they immigrated to this region from the south, and like any immigrants who have found themselves in a strange country, when they came to settle at the head of Lynn Canal, they did not know that the adjacent regions were inhabited. Their inland hunting grounds, for some years were confined to the neighboring mountains, but the interior of the country was shut off by ice, that is by glaciers which filled the canyon passages at the head of the Chilkat River. The geographical knowledge of the people who were found inhabiting the Chilkat region when the Tlingit arrived, did not cover more than a narrow strip of land toward the northern interior.

Being more aggressive and virile in nature, the Tlingit immigrants did not stop to be contented with the limited area that surrounded them. Efforts were made, in the way of expeditions, to become more familiar with the new country, but nothing new or important was discovered until a small party of men, under the leadership of a Shungukaydi man by name of Kayi-shawyi (Eagle-head), ventured over what is now known as the Saint Elias Range.

There is no accurate geographical information to be offered to indicate the exact location of the regions referred to in the account of the journey, and we can only guess at localities by computing the time it took to walk from the starting point. The legend shows that after crossing the desert of ice, the party went along the Pacific coast all

the way to what is now known as Copper River. This journey on foot, which is said to have taken all of the favorable season, proved a very difficult one. Even at the present time with maps and modern equipment, one is often puzzled as to a safe course over the deserts of ice along the way.



Ghost of Courageous
Adventurer.

FIG. 1.



Hilt of the Knife called Ghost of Courageous Adventurer, an ancient relic of the Tlingit Indians, now safely in the keeping of the University Museum. Handed down for many generations of the clan that owned it and whose traditions it commemorated, it was since the brave days when it was made, a treasured historical relic, recalling a dramatic episode and a proud record.

FIG. 2.



Southeast section of Saint Elias range at the head of Lynn Canal.

FIG. 3.

When the explorers returned to Kluckwan, the old native town on the Chilkat River where I was born, only very few of the men survived to receive the honors of discovery and the prospect of acquiring riches. Some lost their lives while crossing the ice and others died of starvation. The survivors on their return told their story and made known the inhabited regions of the west coast. They also brought back iron and ivory, articles previously unknown to the Tlingit people.

In rewriting the account of the journey I have preserved the original form as far as translation from Tlingit to English permits. The language in which these legends are told is what might be called poetic in form and often archaic. It is a form of diction that will sometimes yield in translation to obsolete forms of English.

The story follows.

THE JOURNEY THROUGH CHAN-YOU-KA

"It was Foliage-moon [term for the month in which the foliage leaves appear on the trees, or month of May] when Shungu-kaydi laid packs in canoes. Away they poled toward lands unknown. Not many were those braves, twenty, perhaps, they numbered. Among them was Eagle Head. Tla-hini [a branch of Chilkat River] thitherward were turned those canoes. A stream to far inland never a traveler took, for a glacier there, to shut the passage grew.



Estuary of the Chilkat River.

FIG. 4.

On and on moved those canoes of cottonwood. Now they punt and now they tow. Through water of ice wade uncovered feet of those brave men of long ago. Cold-cough was not known in those days, whence came the man of today, so tender he be? Regardless of all protection to him cold-cough comes.

"One camp thither Trout Creek was gained [across from where Porcupine now is]. It was here canoes were drawn ashore, and underbrush over they were turned, 'Perchance we be fortunate to make our return hither.' Though the trail of sun was yet long, thence and no farther was the journey that day, for always, on such journey, together must be fitted little things, re-tying packs so that better on backs they lay. Staffs too, to the hands were always made. Thus, from the beginning always was there at canoe-landing a camp.

"With the turn the sky like gray, [dawn] through loops of pack-straps faces passed. Heavy they were, those packs of food. Steep it was that Trout Creek Mount. Thitherward that journey moved, without eating for the tongue was yet coated. Different is he the man of this moment. Eat first and his work next, but the man of long ago with him was his work first and with the rise of sun comes his time to eat. Food eaten before the tongue was cleared, they say, was to the stomach unwholesome. It was then the sun was sliding. To the forest border [timber line] the journey climbed. Right was their guess, from this far away were the next trees, hence to camp the journey came.



A Tlingit village at the mouth of the Chilkat River.

FIG. 5.

"Thence, before daylight, again mounted the journey. It was then to the mountain base the sunbeams lowered feet when its summit the journey reached. Fire was dropped [Chilkat term for a brief stop for lunch]. Once man finished eating, on Despondent-man's Trail [a term applied to a cross trail which, in later years, was often taken as a short cut from the prairie to Chilkat Pass] the journey moved. On and on moved that journey, now good was that new trail and now bad. In hollows there, old snow was slowly melting and retarded that snowshoeless journey.

"Two camps thither no trees were seen, only here a low growth and there some willows [from about the summit of Chilkat pass there is a stretch of rolling land of about forty miles, a divide between the Tlingit forest and the timber line from the interior].

"Maybe it was six camps from home, to the shore of river big that journey came. It is now Alsek people called. Thence, along its shore, down the journey moved. Two camps thitherward it was thought too far townward was that river flow. From drift-piles were dragged together logs and right away together was lashed a raft. It was on it thither side of the river was gained. Thence westward the journey went.



A scene at the mouth of Chilkat River in April.

FIG. 6.

"One camp from that river, and here to ice-face that journey came, northward and southward its end was not visible. Right was their guess; far it was, that growth of ice. Whitherward should the journey go? To salt-water big, man's mind lay. It was from thence had come a wayfarer, whilom. In way of homeward travelers that stranger had wandered. [It is evident, it was this bit of vague information, which, occasionally, had been heard in Chilkat as passed on from no known authority, that convinced these men to be all the more determined in their purpose to penetrate into the unknown country.] Among timber-border of that glacier to camp the journey came. That evening mouths to same direction all pointed [the men agreed on a certain course].

"At the moment Yah-tah [Great Bear] toward daylight turned, upon the glacier that journey moved. In the cool of dawn under-foot of man was firm, but as higher rose the sun that firm surface began to melt, hence to the feet came fear. Ready was the rope of the man of long ago. Strong it was, for it was from the thighskin of goat made. From the leader's waist it was through all hands stretched.

"Away ahead of man, side by side, stood two mountains. [Evidently, mounts Seattle and Ruhamah.] Betwix these was fair to man's eyes. Thitherward the faces lay. Eagle Head was leading



A portage to the Chilkat River.

FIG. 7.

men. It was slow, they say, for crevices were many. Though to the eyes quite near they were, night fell, yet ahead were those mountains. With the night, once more, tanned skinlike was underfoot and precaution less in each step. Over the ice field lay twilight and clear to man's eyes was where danger lay. In no mind was a camp to rest, and throughout that night on moved the line.

"In haze of dawn stood those travelers of long ago. Up the face of the mountain on the north side and then up the one on the south side ascended man's eyes 'Chan-you-ka' [Midway of Chan] it was. Henceforth, in our mouths was fixed this name given by those men of long ago. In what tongue was this name given is not known. [Probably the Athapascan name had been applied to these mountains in more ancient time, and the same only made popular since the Tlingit discovery.]

"On went the journey till the mountains with the night were left behind. Toward its slide the sun was falling when to man's ears came that sound of a great drum. The winds were whist, and through the still of air louder and louder came that thunderlike



A Tlingit forest as viewed from a plain.

FIG. 8.

beating as man traveled on. It was the big salt water, against shore moving its arms [waves]. When man's ear recognized that sound, to feeling pierced relief and through the limbs went that feeling, hence faster went those steps. Its last steep slide the sun had taken when among the first timber to camp the journey came. No courage left in man to go farther, sleep it was overpowered that courage.

"How much sleep was it taken when to his pack each man squatted and rushed to follow the first to leave camp? Maybe joy was come to feelings. What was there expected by man from whence, to man's ear, came that sound. Always it is that way, a little change, in hard life, to the feeling is like berries to the mouth, for awhile it is good, but soon that taste melts away. Half way its trail the sun was when to a lake that journey came. Where is this? A lake it was thought, but Yakutat Bay it was to be. Until the tide moved downward it was not known that journey had come to the shore of salt-water. Behind mountain the sun had sunk when to the wave-lip the journey came. Against the shores, up and down, the big salt-water moved its arms. But man's face-impression there was none. [No sign of habitation.] Where were those feelings of joy? Spruce-pitch-like, slowly, they melted away.

"Thenceforth, those feet too, like feelings, heavy they became.

It was at camp, one night, talks against one another were pointed [they disagreed]. What kind of man was he whose feeling homeward turned, and his purpose to abandon? And what kind of man was he whose mind was hard enough to stick on his purpose? So against a talk went another. It is told, Eagle Head, that real man, while humming to himself a little tune, pushed and drew an awl at his moccasin patch. Eagle Head's little humming, it was said, was an omen of wrath in his heart. 'Homesick children like to my ears ye sound' slowly he spoke, 'Pleasure is it for which ye came hither? Turn back on your tracks if ye choose, lest hardship might be your lot. As for me, my feeling is not to turn my face homeward empty handed.' It was then man realized the shame of discouraged heart. Courage once more pierced the weak hearts. At camp on edge of another glacier [probably Malaspina] it was this talk went on. Few are men at this moment who have hearts strong enough to voice blame. Maybe they too, these few, would have been that way, had they stood face to face with glacier with end unknown.

"It was toward dawn on that glacier the journey moved. More dangerous this was, it was said, for crevices on it were bigger and many. On and on, slowly, moved that journey. No sorrow could have come to the travelers then, had two young men taken more care. Maybe it was from self-guard away wandered their minds these men. Thence two first deaths among them were borne. Good young men, from amongst them were gone. To ice crevices they fell. Always it is that way, much care man may take, yet his time to die ignores that care.

"Who was there to bear blame for those lost lives? The mouth of Eagle Head was then feared for no man dare say what he felt about what happened there. In meditation sat those travelers. Maybe in some minds feeling vacillated and decided now one way, and now the other; but no mind there was strong enough to turn about on the tracks. While with troubled hearts those travelers sat, Eagle Head snatched his pack strap 'Walk ye on, is it to you a new thing that man should die?' With this remark on he started to walk. One by one after the leader those men slowly moved. Into feet crept trouble; yet, in spite of all, never yielded that heart of Eagle Head. How strong must have been the heart of that man. Maybe Horizon-people's [Europeans] steel it was like; it never bent. One night and two daylights went over that journey to gain thither side of that glacier. Thence, once more, along wave-lip on, that journey moved.



A view of the Tlahini River, Trout Creek Mount on the thither side.

FIG. 2.

"It was from camp, man along wave-lip walked. Traveler of long ago, unless something there to do, never still in camp. What was it for which he looked? It was to drive away tired feeling that made in man such habit. Not far from camp that man walked. There, across his way, lay a drift log with 'spurs' of queer genus. Never had man seen such 'spurs.' From his girdle that man of long ago drew his adze. What was there harder than that green stone? Thence, that man of long ago, little did he think of care, with strength he struck that queer growth: 'dumm' came forth a sound. What was it that had such sound, and what meant this? The edge of that hard green-stone adze broken off and only a bright spot where it had slipped. 'My adze, much on you had depended.' For a moment into his mind pierced trouble, but stronger was the thought of that queer log.

"Maybe then was come to the mind of that man of long ago, at hand lay a superior to his green-stone. For some moments on the queer log looked that man. Then over he rolled it. There stuck out more of those 'spurs.' Carefully that man looked and felt, then to the camp and to comrades he told. Right away with

him they went thither. To camp that log was carried. First with rocks they pounded. No, those queer 'spurs' only bent. 'What to it will fire do?' On the fire was laid that queer log and on it lay all eyes. Behold, before man's eyes that log burned, but what they thought spurs turned only like red hot coals. Thus, in the hands of Tlingit, through a drift log, was borne iron.

"It was then Coho salmon, one by one, swam in streams [late summer] to shore of a river big the journey came. It was, maybe, Copper River now called. Here the mind of man vacillated and decided now to cross and go onward along the shore of big salt water, and now to follow that river big. One camp in one place another follow, and through those days slept Eagle Head. Never from his mouth was heard his feeling, maybe now a little bend in that strong heart. No one there can say what will favor man's effort.

"How many camps it was in this one place was not told, when smoke was sighted, away toward upstream. 'Gunanah' [alien tribe] man said. To make certain no one said. Whoever happened near his pack, to it he squatted and in one accord a run was made toward that smoke. To the eyes, right near was that smoke, but notwithstanding that haste, before it was reached night fell. It was not too dark and eyes could see clearly the way ahead. Where went heavy feelings? Excitement overpowered, and on went hurried feet.

"From behind a point went forth those travelers, and right before eyes lay many fires; a long row of habitation, it looked; perhaps a great town. Maybe opposite nostril was the breeze, hence was never scented all that smoke. Travelers were yet far away when at them dogs began to bark. On opposite side of stream quietly halted those travelers. From amongst that habitation first came forth a voice, 'Who be ye,' it meant, perhaps. No one was there to tell what that strange tongue had said. 'Tlingit [human] we are, it is thy presence we seek.' They likewise had failed to understand man from another place. While man's feeling hesitated to wade across, those fires were all extinguished. Alien people, always, like wild animals, they are shy. Through the swish of running stream and night was heard talking; cradle infants too were crying. There was nothing else the travelers could do, but to await daylight. The people they searched were of them afraid.

"Gradually night faded away and on a large camp opened dawn; a long row of houses of brush. Presently, one by one, smoke stood from within each dwelling. Eagle Head it was who came out



A scene at the head of Porcupine Creek.

FIG. 10.

to stream edge. With motion he talked to the people across and one by one together came those new people. In front of them stood their head man, who likewise talked with motions to the travelers. Few words only the chief passed out and with his finish other talks were mixed. Happy they all seemed. The travelers then were summoned to come.

"Amongst alien tribe thither walked Tlingit. To this day in the same manner we walk thither. In the open those travelers were surrounded and on them lay strange eyes. Maybe curious they were to those eyes. From among that crowd came forth their chief. Likewise Eagle Head went forward to meet him and face to face stood Tlingit and man of alien tribe, and with motion-talk each other they acknowledged. Presently, from his pouch the Tlingit brought to view his dotzi [Fire making apparatus of flint and pyrites]. With it was some tinder of scraped root of the red cedar. Before the eyes of the alien people began to blaze a fire from a spark. For a moment there was silence, and then came confusion of voices. Alien people, they were amazed. After he gave his dotzi that test, Eagle Head placed it in its pouch and then held it toward the alien man, 'To thine hands I brought this my friend.' With these words in the hands of alien man was placed that fire-making set. With wooden drill it was they made fire those inland people. In return that chief from his shoulder he lifted his quiver of arrows, and with his bow he gave it to Eagle Head. Thus, with gifts were expressed greetings of Tlingit and alien man.

"No longer was there feeling of suspicion. In advance of feasting there, before those travelers, lined up to dance those alien people, for it is their custom. With dance they greet friendship. Do they make up for dance, as we do? Not at all, those nomads, whoever happened near, some maybe with packs of infants, and as they are, down to dancing they move at the moment song is started. Happy they are, those inland people. Though to them was known all dangers of man, yet among them was calm life. Why Tlingit learn not this good life? How bad must have been our ancestor, his offspring only to other man antagonist be. We were bothered first, perhaps, thence our strike was hard with other man.

"How many were their camps amongst those alien people was not told. All through their stay, of course, went on exchanging of things. Everything from the travelers hands went as gifts, in return for many things the alien people gave. It was at that time

to the Tlingit was given walrus tusk [ivory] which, heretofore, like the iron was unknown to them.

"The people found in that camp pointed to still other people [probably Eskimo] living farther on [westward], and meeting point it was where they were found. It was at that time, perhaps, to the Tlingit came knowledge of copper; that is not known to us. It was from that region, in later years, to our hands copper came.

"It was then cottonwood leaves had yellow like turned [autumn] when a cry of warning of the return approach of Chan-you-ka travelers was heard in Kluckwan. Before the town drifted their canoes. When those canoes came to shore there, only a very few of those men came home, the missing had fallen along the way. To some person a son and to other a husband, perhaps, a father too was missing; a moment of sorrow that was, from different sections was heard only cries of sorrow.

"In his canoe stood Eagle Head, never before in his manhood did his voice tremble. Maybe it was from above that to his strong heart entered sorrow, when he pronounced those names, one by one, of the brave men who fell along the way. From the beginning it was that way, through sacrifice only does man acquire something worth while. It was at the cost of brave lives we now have on our hands things that constitute our pride.

"Thence, how long on man's hands this iron lay is not known. Until Kah-ooshti [a war lord of the Kahguan-taun clan] rose in his uncle's stead, it was never brought to view, and it was in his hands like war knife it was formed. When first finished it was not as you see it now. Only since grind stone came to our hands its rough surface was made smooth; the ivory head, however, was never changed, it is as was first made.

"It was during Kahguan-taun encounter with Tika-nah [a Tlingit division occupying southwest coast of Prince of Wales Island] that this knife was finished. The man of long ago, always on its right time he did a thing like this, thus it was in war time this knife was awarded. One day from house to house passed a messenger, 'Kah-ooshti to Pinned House calls his clansmen.'

"When all were seated in his council house, before man stood that great warrior, 'Ye men of Nays-adi, Shungu-kaydi and Kahguan-taun [clans or subdivisions of one side of the tribal division] I desire your support, for without ye what is there can I accomplish! At this

moment on ye men I call to confirm desires of those men in whose stead I stand before ye. From that moment it was told me not once did it leave my mind the deed performed by those men who gave their lives in Chan-you-ka journey, in confirmation of the noblest claim. My heart feels good that it is on my hands fallen to bring out the object of man's mind [referring to intentions of men whom the warrior succeeded]. It was when troubled mind had calmed, Eagle Head, at that time, made a remark, 'Only our ghosts are returned to you, ye children of Shungu-kaydi,' thence, man forget not his remark.

"At the end of his speech, from its sheath that great warrior drew forth this knife, 'Denizen of unseen world.' It was Kah-ooshti who pronounced the name. With outstretched hands the man held it and called he, 'Eagle Head, take it, in thy hands shall rest memories of thy brave men.' From among men came forth Eagle Head. He was much bent, his eyesight too was very short, for age had come over him. 'Kahguan-taun! Acceptance only, in this old age, can I offer. Now only in dream shall be my post. Had this moment but come while I was young! I take this knife only to pass through these old hands, I trow, to hands of more power.' In this manner to the hands of Shungu-kaydi passed this knife."

Thus, it was the remark, made by the courageous adventurer, that inspired the artist who fashioned the name of the war knife on the Pommel, and as near as the Tlingit idea can be interpreted in English, the name of the knife is, The Ghost of Courageous Adventurer.

L. S.

FETISH FIGURES OF EQUATORIAL AFRICA

THE Museum is about to open a new exhibition of African and South Pacific Art and the time is appropriate to look for the motives that underlie these products. The exhibition will be more intelligible and interesting if seen in connection with the following related facts. In the present article I confine myself to the group of African wooden fetish figures. In another article I propose to treat of some other features of the exhibition.

The carved wooden figures of human beings and animals which are so typical of the art of equatorial Africa, especially in the interior and the west, are commonly grouped under the name of fetishes. This term, anglicized from a Portuguese word which was early applied in this sense, meant originally an amulet or charm. It has since been used to denote a wide variety of magical and religious objects, and fetishism has become a word to cover many diverse religious notions and practices of the African Negro and of other peoples who are held to be at a similar stage of development of mental or spiritual culture.

The great majority of these wood carvings undoubtedly have some connection with the religious usages of the Negro. In Africa, no less than in other parts of the world, religion has been the inspiration of art, or it might perhaps be truer to say that each has inspired and encouraged the other in the highest development to which the capacities of the race were able to bring them. If this is true, we might expect to find that the greater the hold religion has on a people (given the average aesthetic feeling in which primitive people are certainly not lacking) the more developed will be their art. In the southwestern Congo region the Bakuba-Baluba peoples have been characterized by a writer who has observed the Negro in Africa with sympathy and understanding as "singularly superstitious." The choice of the epithet is perhaps unfortunate, the context shows that these groups of Bantuized Negroes have a more highly developed system of cults, religious or magico-religious, than any other Congo people of their degree of culture, which is high—for the Congo. And it is here too that we find the best and least contaminated Negro art.



A Congo fetish figure. An animal's claw is inserted in the top of the coiffure.
This is what gives to the fetish its virtue.

FIG. 11.



A "nail fetish" of the Congo coast region.
FIG. 12.

Varied as are the practices connected with the use of "fetishes," and numerous and undefined as are the religious concepts which give rise to them, it is possible to distinguish two notions as to man's relations towards things seen and unseen, and the way in which he can control or influence them or they him, and as to the nature of forces powerful to affect destiny or give effect to desire. Here is a Negro's exposition of what he believed concerning his own spiritual nature: "I have two things—one the thing that becomes a spirit when I die, the other the spirit of the body and dies with it."



A Bakuba fetish.

FIG. 13.

According to the Bavili of the coast region north of the mouth of the Congo, a man's shadow, *xi dundu*, enters and leaves the body by way of the mouth, being thus associated with the breath, *muqu*. A dead man has no shadow even as he has no breath. The shadow is thus a vital element, but it is associated with mortality: it dies with the man. When a person swoons, it is because his *xi dundu* has been stolen by a sorcerer; if it is not returned, death ensues. *Xi dundu* is, evidently, a concept of the same nature as the "spirit of the body" referred to above. It can hardly be called a spirit in any modern sense of the term. It is only spiritual in that older sense which survives in such expressions as "animal spirits," "high spirits," an immaterial principle governing vital phenomena.

To the mind of the Negro every object in nature, inanimate as well as animate, embodies some such principle as this, and is endowed with personality or "self-power." A description of the ceremonies which accompany the death of a chief of the Banziri of the north-western part of the Mubangi valley gives the following suggestive details: "The relatives arrange the corpse in a doubled-up position on a kind of gridiron of poles. Then they kindle a fire under the body. Receptacles of baked earth are placed so as to collect the

melted fat which trickles from the body under the action of the fire. Those who are present smear faces and hands with this fat, rinse it off with warm water, and these rinsings are drained into vessels and drunk by the relatives, who believe that in this way they incorporate in themselves the virtues and qualities of the deceased." A chief has, of course, personality or self-power in the highest degree. He is preëminently the *able* man. Hence the ceremony.

In the Delagoa territory there is a mole which burrows under the sand just below the surface. Children in that country are attacked by a parasite which lodges under the skin and burrows there in a similar way, so that the traces of its course are plainly visible on the surface. The women of the region make bracelets of the skin of the mole, which they put on the arms of their babies to protect them from the burrowing parasite. The mole-skin embodies the "virtue" by which one (the bigger and hence more powerful) burrower can defeat and drive away another.

In the Kasai-Sankuru region of the southwestern Congo, diviners make use of a peculiar apparatus. It consists of a wooden figure, usually of some animal, dog or crocodile, the back of which is flattened and smoothed. When it is desired to discover, for instance, the name of a thief, this flat space is dampened with a viscous liquid and a wooden disc passed back and forth along it, the operator pressing hard upon the disc and reciting the names of the villagers. When the disc sticks, the name then being spoken is that of the guilty party. Here again, a principle inherent in the object may be used to supply the place of powers lacking in oneself.



A Basanga (Bahiba) fetish, with lizard-skin girdle, and "medicine" in the holes in the abdomen and the top of the head.

FIG. 14.

It would seem that we have in such cases evidence of a concept of a principle of power inherent in men, animals, and inanimate nature, by which one may enhance and fortify his capacity for dealing with situations intractable to his own unaided forces. This



A Bena Lulua (Baluba) figurine, with representation of ornamental scarification of face, neck, and body.

FIG. 15.

concept is applicable to most cases of fetishism of the simplest kind, in which "powerful" objects are employed as charms, amulets, talismans and such "oracles" as that described above, as well as all objects regarded as "medicine," preventive or curative.

The essential part of the fetish—the claw of a beast (Fig. 11), some other part of the body of animal or man, dried and powdered, leaves forming a concretion with resin or clay—is placed in a suitable receptacle such as the horn of an antelope, a small shell, or a hole made for the purpose in a figure, usually wooden, representing a human being or an animal. Any object—a stone, a stick, a tree—which attracts attention by some peculiarity of form or of imagined behavior may become a fetish; as when a Negro, stepping out of his hut to start on a journey, stumbles over a stone which flies up and strikes his leg, picks up the pebble, saying, "Ah, there you are!" and carries it off with him, firmly persuaded that it has acted thus in order to attract his attention and signify its ability to help him in the purpose for which the journey is undertaken. But we are concerned here with receptacles for "powerful" substances, which have the forms of animals, especially of human beings.

The projection of an invisible force to act at a distance on some other object—as when nails driven into a wooden figure of a man cause the death of the person whom the figure represents—would easily give rise to the notion that this force was a spirit. The container or fetish figure inhabited by it, especially if this

had human form, would be looked upon in time as essentially one with the indwelling spirit, just as a man's spirit or soul forms a unity with his body. Thus we get a second class of fetishes corresponding to the more developed religious ideas among the Negroes; fetishes of the first class continuing to exist at the same time, as a survival from a simpler day and an uncontaminated culture.

As fetishism developed and became more and more systematized, the ritual practices connected with it became so numerous as to require the services of a special class of persons skilled in the songs, dances, incantations, auguries, and offerings which came to accompany fetish worship. Hence the medicine man, witch doctor, magic doctor, whose baleful power, sometimes united in the same person with that of a chief, is still so strong in Africa. Such worship, including sacrifices to the fetish figures, is directed mainly to causing the fetish to exercise its powers for the advantage of the worshipers. It has grown out of and only partially replaced much simpler practices having the same purpose in which it is difficult to find any trace of the awe or reverence characteristic of worship proper.

Since the Negro tends to endow all objects, lifeless or not, with personality similar to his own, it is not surprising to find that he employs, to call forth from the fetish a beneficent activity, means similar to those he has found effective in the case of human friends, enemies, or persons in authority. Thus a fetish is petted, cajoled, or beaten. "The Negro in Guinea beats his fetish if his wishes are frustrated, and hides it in his waist-cloth when he is about to do something of which he is ashamed." In this latter case, where it is



A Baluba figurine.
FIG. 16.

attempted to conceal knowledge of a shameful act from the fetish, there is present the feeling of fear, which is at least an ingredient of awe, and shame, which belongs to a higher order of the same emotions; while fetishes of more important rank are "prayed to, talked to, sacrificed to, as sentient and willing personifications of the spirit" dwelling in the fetish. The squirting of the juice from a quid of kola in the mouth over the fetish figure is a common means of "refreshing" a personal or family fetish in which we may see, perhaps, the germ of the sacrifices offered to more important ones.



A fetish from the Cataract region of the Congo.

FIG. 17.

All the figures, illustrated here, from collections in the University Museum, are fetishes of one kind or another. Fig. 12, a so-called "nail fetish," is from the Congo coast region near Luango. The custom of driving nails into a fetish is the expression of several different ideas as to the results expected. In one well-authenticated instance "a native . . . being accused of stealing . . . invoked the curse of death upon himself if he were guilty, and knocked a nail into his *nkisi* (fetish) as a proof of his good faith. At that time he was hale and well built, but soon grew meager and thin, and in three months he was scarcely recognizable. At last he came to the [missionary] and asked him to pray to God on his account, for he had stolen the things and would die if God did not forgive him." The nail driven into the fetish is a means of calling house- or lares-fetishes to witness the validity of an oath; incidentally, the instance shows the extraordinarily powerful

influence of even a divided faith upon the mind of a primitive believer.

The nails may be the record of the number of persons done to death under the power of that particular fetish. For every nail driven into the figure, the person against whom its power is directed will be afflicted with some disease, or may be at once stricken with

death. This recalls the European witchcraft custom of sticking pins into a wax model of the person intended to be injured.

Again the nails may be of the nature of a spur, a kind of pointed incentive to the fetish to perform the functions expected of it. Fetishes treated in this manner are usually family- or lares-fetishes, which, in the Congo if not in West Africa, are often treated with remarkable roughness—may be beaten, thrown into the water or the bush. If a tutelary fetish shows itself more accommodating as a result of such treatment, it is restored to its place as guardian of the home.

The "nail-fetish" shown in Fig. 12 is a wooden statuette 28 inches high. It is a typical western Congo figure, naively realistic in execution, bringing out by the broadest and simplest means the salient characters of the physique of the Negro of that region. The disproportionately long torso and short legs, the splay feet, columnar neck with the marked forward tilt, as of some primeval near human type not yet fully at home in the upright posture. The caricaturist often produces a better likeness with his faculty for discriminating exaggeration than the photographer. The Congo artist is, so to speak, an unconscious caricaturist without a sense of humor. He gets his effects with no laboring of details. The stumpiness of leg of the forest Negro who is his model is emphasized by the almost complete lack of differentiation between thigh and lower leg and the placing of the bulge of the calf behind the slightly indicated knee. The peculiar balance of the head already referred to, the remarkable flattening of the profile of the face, the most carefully executed part of the figure, all combine to give an excellent idea of the type.

The whole figure has been whitened, though the whitening has been rubbed off in many places. The chest and the back of the neck and of the head bear large blackish dots. There is a rec-



Fetish intended to be held in the hand or set upright in the ground during a ceremony.

FIG. 12.



Animal fetish from the Congo coast region

FIG. 19.

tangular cavity in the abdomen which has carried a mirror or other powerful "medicine." A nail is stuck in each breast, an arrowhead between. In the middle of the slightly raised panel which represents the shoulder-blades there is a shallow round hole into which another nail has been driven with a bent one beside it. About the neck is a wire necklet, a rope of twisted cloth encircles the ankles. These two articles are probably of the nature of votive offerings. The unfinished appearance of the top of the head is due to the removal of a resinous concretion which formerly represented a cap or coiffure.

This figure was a "nail fetish" of the Bavili people, who inhabit a region where fetishes of this nature are plentiful. When the "virtue" has gone out of these fetishes—note the removal of the coiffure and of the "medicine" from the cavity in the abdomen—they are readily sold to foreigners. The "nail fetishes" of the Bavili are prepared and employed in the following manner:

The *nganga*, or wizard, who is attached to the service of fetishes, gathers a party of men, whom he leads into the woods to cut down a tree for the purpose of making the figure. On this occasion, if a man should call another by name, the latter will die, and his *kulu*, or spirit, will pass into the tree and become the *kulu* of the fetish made from it. The person whose infringement of the name taboo is responsible for this, will answer with his life to the relations of the man whose death he has thus brought about. In any case someone must die in order that a *kulu* may be secured for the fetish. A boy known for his high-spiritedness, or a hunter celebrated for his daring, is selected and the party goes into the bush and calls his name aloud.



A West African mask.

FIG. 20.

THE mask here shown is typical of the masks used in some unknown ceremony by one of the West African tribes. It is of hard wood which has turned black and taken on a high polish from age and use. Its features, faithful to tradition, follow prescribed and conventional lines. The oval contour, symmetrical outline, projecting forehead, massive nose and protruding eyes which slant downward to the outer corners, are characters which mark off this group of masks as the product of one locality, for use in some custom or ceremony.

The wizard cuts down the tree and blood pours from it. With this is mingled the blood from a fowl then slain. Within ten days the man whose name was pronounced in the bush dies.

"People pass before these fetishes calling on them to kill them if they do, or have done, such and such a thing. Others go to them and insist upon their killing so and so, who has done or is about to do them some fearful injury. And as they swear or make their demand, a nail is driven into the fetish, and the palaver is settled so far as they are concerned. The *kulu* of the man whose life was sacrificed upon the cutting of the tree sees to the rest." We have here a combination, with certain modifications, of all three ideas stated above to be involved in the cult of the nail fetish.

The other large figure reproduced here (Fig. 11) is of uncertain provenience. It is certainly a product of the Congo region, probably from the interior, from some group of the superior Baluba-Bakuba stock. The art of these people is the most remarkable to be found in Negro Africa. The portrait statues in wood of the earlier Bakuba (Bushongo) kings, show an individuality as well as a degree of skill in execution unequaled in Negro art. The head of Fig. 11 is, as usual in African, even in Bakuba, art, the feature to which most attention is paid, and here a result almost of delicacy of feature and expression has been arrived at. The figure is of hard brown wood. The arms are carved in relief on the sides and front of the trunk. They are bent at the elbow and the forearms, carried up in front of the body, join at their extremities, where the hands should be, under the chin in an attitude of prayer or entreaty. The legs, disproportionately short and stout in comparison with the long, slim trunk, are bent at the knee, as if giving way under the weight of the body. It is evident that the position of the limbs is intended to give to the figure an expression of beseeching terror. This is hardly reflected in the face, however, in which the only mark of any unusual feeling is in the slightly parted lips. These are prominent, but not unduly thick. The bridge of the nose is fairly high, and the whole feature would not appear markedly negroid if it were not for the abrupt flattening of the tip, as if the artist had sliced off an originally more rounded surface to get an effect corresponding to a corrected impression. The broad cheeks and the central bulge of the forehead above the sunken eyes put in with bits of glass, combine two typical with a distinctly untypical (the last) character. There can be little doubt that this figure is a study of



Mask of the Bakete, southwestern Congo.

FIG. 21.

THIS mask, made in a different part of the country, differs markedly from the one shown in the last figure. In this instance the chin is pointed, the nose small, the eyes set in broad and elongated depressions which are painted white. The mouth also contrasts by its smallness with that in the other illustration. The surface of the mask is intersected by lines which represent the scarification practiced by many African tribes upon their persons. It is supposed that this mask, as well as those shown in Figs. 20 and 22, are constructed strictly on traditional lines for definite use in some tribal ceremony.

an individual—perhaps of a slave girl or other victim of a war party, maimed, and awaiting, numbed with terror, the coup de grâce the joined stumps of her arms appear to deprecate.

The conical coiffure is built up of a substance similar to that of which traces appear on the head and abdomen of Fig. 12. The claw embedded in the apex of the coiffure indicates the fetish nature of the figure. The white markings on the cheeks, along the jaws, and the remains of similar markings on the forehead are probably tribal marks. There are indications that parts of the figure—the loins, the cleft along the backbone, the neck—have been stained red with powdered camwood, which, like the resinous concretion on the head, is considered throughout the Congo to have magical properties.

Figs. 13–16 represent a group of fetishes from the southern Congo region between the Kasai-Lulua river to beyond the Sankuru. This region is dominated by the Bakuba-Baluba group of peoples, immigrants many generations ago from the north, probably from the Chad drainage basin, by way of the Shari and Ubangi rivers. They founded strong kingdoms south of the main stream of the Congo, the powerful Lunda empire was built up by people of the same stock, and their art is the most individual and interesting in Africa. This is especially the case as regards the Bakuba, the “people of the thunderbolt,” who call themselves by the name of the weapon which won them their supremacy, Bushongo, the “people of the throwing-knife,” though that terrible missile is no longer in use among them. The art of the whole region shows unmistakable Bakuba influence.

In Fig. 13, a Bakuba fetish, the receptacles for “power” are round holes in the abdomen and the top of the head. This is the case also with Fig. 14, a smaller figure from the Basanga, a Baluba tribe. The “medicine” is apparently still in the holes. It has also another source of “influence” in the snake- or lizard-like skin girdle.

Fig. 15 is from the Bena Lulua, also a Baluba group. The groovings of the face and body represent the scarifications with which the people of the region ornament the skin of their faces and bodies. The markings on the neck and temples are tribal marks. The Bena Lulua are said to be the only African tribe who practice a form of “cut-out” scarification similar to the scar tattooing of the Maori of New Zealand. The lower portion of the left arm of this figure has been broken off. It held a cup, which was the receptacle for “medicine.”



Mask of the Panti, Ogowe River, West Africa.

FIG. 22.

THE mask here shown is of another type which has little resemblance to either of the preceding. It is oblong in shape and rectangular in outline. The entire flatness of the features is relieved only by the small projecting nose. The mouth is represented by a flat elevation marked by a slight transverse incision. The eyes are simply holes, colored black. The coiffure, is indicated by a series of crisp wavy incisions and by the black paint with which that part of the wood is covered. The entire face is painted white.



Profile of Fig. 12.

FIG. 23.

THIS profile of the head and shoulders of the nail fetish shown in Fig. 12 brings out some of the marked characteristics of that image. Here one sees the massive face, the undeveloped chin, the flat nose, everted lips and small skull, physical characters which appear in varying degree in a certain type of Negro. The illustration shows the forward projecting neck which seems to be weighed down by the heavy face and recalls the attitude of one of the anthropoid apes or of the primitive human being emerging from the brute. The crown of the head was formerly fitted with some kind of coiffure. The nails driven into the head, shoulders and trunk correspond to petitions. The entire body is painted white.



Another view of the head of Fig. 12.

FIG. 24.

IN this illustration the character and expression of the face of the image shown in Fig. 12 are brought out more clearly. Reference to that figure will show the heavy trunk, long arms and short legs which combine with the head and face to convey the idea of brutal strength. The entire work portrays with force and emphasis certain characteristics that belong peculiarly to some of the West Coast Negroes.



In the ju-ju (fetish) temple of Benin City, West Africa, curved elephants' tusks were set up on the "altar" resting on bronze heads such as this.



A group in painted wood from the Yoruba country, West Africa.

FIG. 26.



West African mask,
FIG. 27.



Another view of Fig. 27.

FIG. 28.



Wooden statue, probably a portrait, from West Africa.
FIG. 29.



Group in painted wood from the Yoruba country, representing a chief with
spear-bearer and other followers.

FIG. 30.



Wooden statuette from the Lower Congo

FIG. 31.



A Baluba Petish.
FIG. 32.

THIS figure may serve to illustrate the characteristic ways of introducing "Medicine" or special virtue or power into the image. The medicine consists in this instance of a human tooth in the abdomen, a smaller one on the receding forehead and another in the left shoulder. Power also resides in the point of an antelope horn inserted in the crown of the head and filled with some magic substance. The hairy skin of some animal about the body and neck also contributes its measure of virtue. The rag wrapped around the lower part of the body represents the kilt of a chieftain. The modeling of the figure is worthy of study. The head and face especially show both skill and imagination. The treatment of the eyebrows and the hair is a clever bit of technique that, together with the spirited freedom of the features, gives character and expression to this interesting figure.



A Nkima Fetish.
FIG. 33.

Fig. 16, also a Baluba figurine somewhat larger than the three just referred to, has less individual expression than the others, and in the execution of the rest of the figure conventionalization has gone to much greater lengths. The arms are mere loops, the hands, in the customary position, pressed against the sides of the abdomen, are indicated simply by a flattening of the ends of the arms. The hips and legs form a single block, the upper part of a pedestal for the trunk; the feet, also undivided, with the toes forming a continuous row, serve as the base of the pedestal. Whatever—probably glass or shells—was used as inlay for the eyes has disappeared. There is a deep hole in the top of the head in which is inserted the thin end of a small corncob.

With the next example we pass to a region much further west—the Cataract region of the Congo below Stanley Pool (Fig. 17). The peculiar crested coiffure; the curved and angular outline of the hair sharply defined against the smooth surfaces of the forehead and back of the head and the striations of the temples, cheeks, and jaws; the clean cut trapezoidal beard; the steeply protuberant crescent of the mouth; the barrel shaped trunk from which the thick neck with its peculiar bulge about the middle rises abruptly; the short calfless legs of which the thigh is merely suggested by the beveling off of their junction with the body; the hoof shaped feet; the bare indication of the bent arms cut in low relief against the sides of the trunk and merging into the abdomen just below the rectangular depression intended to receive the "medicine;" the blackening by fire of the surfaces intended to represent the hair of the head and beard; all represent the type of a large group of figures peculiar to the Lower Congo in which conventionalization has proceeded so far as to preclude any opportunity for a display of originality on the part of the craftsman, except by such obvious means as slight changes in the relative size or the shape of some features or of the spaces separating them.

Fig. 18 is another specimen whose provenience is not determined. The cord wrapping which binds strips of palm fronds to the body suggests the Congo coast region. The almost complete absence of forehead, the short blunt nose, wide mouth with everted lips, the immense ears, and the marked prognathism, are all indicated with a simplicity of method and a directness all the more notable for the very small scale of the figure; the result being a remarkable representation of a peculiarly brutal Negro type. The upper eyelids bulge

forward under the heavy brow ridges, but there is no attempt to indicate the eyes—or else these are lost under the encrustation of dirt, or possibly of some form of pigment with which the head is partially covered. Here the virtue of the fetish, if it is one, probably lies in the leaves under the wrapping of cord about the body. The figure stands on a pedestal which is trimmed to a point at the lower end and inserted in a pointed iron ferrule. A similar device for holding fetishes in the hand during certain ceremonies, or keeping them upright by sticking the point into the ground, is found not only in the Congo but also in the Benue-Niger region. The figure bears a rather close resemblance to the small stone figures of Yorubaland.

In Fig. 19 we have a representation of a dog, of native African type, with the jaws open showing the teeth, or those few of them which the craftsman who made it had sufficient patience to carve out. The eyes are put in with small pieces of white glazed earthenware (European). On the back there is a circle of resin which formerly held the "medicine." The tail forms a ring which may have served to suspend the fetish. Another ring of stout twisted wire hangs on the ring of the tail—possibly an offering. The figure is from the coast region near the mouth of the Congo. The legs have been broken off short; the under part of the body is coated with the magical red camwood powder.

The wearing of masks is connected with funeral and memorial ceremonies, with the initiation of youths into the full social life of the community or into secret societies, with the activities of the secret societies themselves, and with the fetishist practices of medicine men. In most cases they form part of a dancing costume. The mask, Fig. 20, probably from the Ivory Coast, with its sharply protuberant features, bears a close resemblance to the mask worn by members of the Babende secret society among the Bakuba. This society was founded by a great chief of the Bakuba to facilitate the capture of malefactors. Very often these secret societies exist chiefly as a means of securing the dominance of a particular caste. In West Africa there are powerful secret societies among the women. But usually the masked figures which are supposed to be the embodiment of spirits of the dead or of other powerful spirits are an object of terror to women and children, and to the uninitiated generally, and thus help to maintain the supremacy of the members of the ruling caste. The Babende maskers on certain occasions dance in

public; if a woman touches one of the masks, they kill the first goat they encounter, and the offending woman has to pay the costs.

Fig. 21 is a mask of the Bakete, a subtribe of the Bakuba. The prevailing color is brown. A slightly sunken space surrounding the eyes and extending to the ears is painted white. The narrow slit between the eyelids is not cut through; a crescent shaped hole has been made below the eyes for the wearer of the mask to look through. The forehead juts forward in a sort of peak extending to the front; not so markedly, however, as in the last example. The narrowing of the protuberance of the mouth towards the front gives it the appearance of a proboscis. The triangular incisions of the brown colored part of the face probably represent scarification. Both these masks are pierced at the edges for the attachment of a fringe of grass or fiber.

Extreme simplicity of plan marks the last example shown (Fig. 22). The long oval of the face is whitened except at the chin, which, like the other darker portions of the border, is browned by the action of fire. The very small eyes, the snoutlike appearance of the nose, the extreme length of the upper lip, and the narrow slit of the mouth at the top of the moundlike formation of the lower part of the face, all suggest that this mask of the Fan people on the Ogowe river of the west is intended to represent the head of a baboon.

Fig. 32, a Basonge (Baluba) fetish, with its skin wrappings, the human tooth set in the middle of the abdomen, and the rag of trade cloth wrapped around the hips in imitation of a chief's kilt, illustrates well the application of extraneous "medicine" to the fetish figure to endow it with power.

In Fig. 33 we have what appears to be a fetish rattle from the Nkimba tribe near the Stanley Falls of the Congo. Two seated figures each support a carrying yoke on its shoulders. This may be compared with Fig. 18 for the handle, used either to hold the object by or for the purpose of setting it upright in the ground. The rattle is formed of a number of nut shells fastened at the top of the handle and below the block on which the figures are seated.

H. U. H.

ATTIC VASES FROM ORVIETO

IN the MUSEUM JOURNAL for December, 1913, an article appeared, in which a large number of vases were published, that had been put together from fragments, which had been found at Orvieto, and brought to the Museum through the generosity of John Wanamaker.

But even after the vases published in that article had been mended, a large number of fragments were left, and it was deemed opportune to attempt the restoration of other vases this autumn, and see if anything could be made of the potsherds remaining. The results have been happy, and some of these vases will soon be put on view.

1. The first vase to be described (Figs. 34 and 35), an Attic black-figured amphora, had already been published in part in the article already referred to (p. 159, Fig. 137), where attention was called to the principal subject, that of Herakles and the Erymanthian Boar. This labor of Herakles is one of the most popular of his exploits among Greek vase painters. In the spring of 1913, while preparing a dissertation for the degree of Ph.D. at Harvard University, the writer came across references to seventy-one vases which show this subject, and since then he has either seen, or been referred to, a great many more. These vases can be divided into five classes, according to the way in which they treat the subject. In one, Herakles attacks the boar with his club, or another weapon; in the second class, he wrestles with the boar, very much as he is represented wrestling with the Nemean Lion; in the third, he is either engaged in lifting or carrying the ferocious animal; in the fourth, he brings the boar to Eurystheus; while the fifth group are "doubtful vases" which either cannot be assigned to any of the preceding types, or may not refer to this subject at all, but which have been interpreted as representations of this labor by various scholars. Of these, the fourth class is by all odds the most common, including thirty-six of the seventy-one vases collected in 1913, or over half of the whole. It also has the handsomest, latest, and most important examples.

It will be seen that this amphora belongs to this fourth class.

It is needless here to give a complete list of all Erymanthian Boar vases, but it will suffice to say that this vase shows the subject in the normal way. Eurystheus, the uncle of Herakles, at whose bidding the labors were performed, is so frightened at the sight of



Attic Black-figured Amphora.
A. Herakles and the Erymanthian Boar.
FIG. 34.

the hero bringing him the boar in obedience to his command, that in his fear he has tried to hide himself in a huge jar, or pithos, that is half buried in the ground. Herakles stands over the jar, apparently in the act of hurling the boar on the head of his uncle. He has set one foot on the rim, and braced himself to give force to the throw.

Eurystheus, in the jar, holds up his hands in supplication. On the left side of the central group is Hermes; on the right, Athena, both looking on in a purely impersonal way. These two divinities are also the onlookers on a black-figured amphora in the Louvre in



Attic Black-figured Amphora.
B. Four-horse Chariot.

FIG. 35.

Paris, No. F 59, and on a red-figured stamnos, or amphora with side handles, in the museum of Chiusi in Italy; but ordinarily the spectators are Athena and Iolaos, the nephew and constant companion of Herakles.

The reverse of this vase shows a quadriga, or four-horse chariot,

seen from the front, which is a common design in this period. The vase dates from the period around 530 B. C.

2. Perhaps the most tantalizing of all the vases restored is the black-figured hydria, or water jar, next shown (Fig. 36). Practically



Attic Black-figured Hydria.
Chariot scene.

FIG. 36.

the whole of the undecorated part of the vase exists in fragments, but very little of the panel on which the main design was painted, and almost none of the shoulder. Of the panel, however, enough has been preserved to show that it was a chariot scene. At the

horses' heads stands a figure in a short chlamys, or cloak, and with high, winged boots. This figure is undoubtedly Hermes, the messenger of the gods. Half way between the horses' heads and the chariot, and back of the horses, is another figure, closely draped, of whom part of the head is preserved (he is the only figure of whom any of the head remains) as well as the legs and feet. This is probably to be regarded as Dionysos. Another figure, of whom only the



Attic Black-figured Column-Krater.

A. Scene of combat.

FIG. 37.

feet and legs are left, stands by the chariot. No clue is given as to who was in the chariot itself; but from a glance at the two figures that it is possible to identify, it is very probable that they were Athena and Herakles. At the foot of the panel is a frieze of panthers and goats, treated in a very conventional manner.

3. A black-figured krater, or mixing-bowl, with column handles (Figs. 37, 38). This shape is sometimes called a *kelebe*. It is very probable, on grounds of technique, that this vase is the earliest of

those here described. Both the style and the subjects represented are much more archaic than those on the amphora or the hydria. Very few fragments exist of this vase, but enough to give the shape, and show the designs. On the obverse is represented a scene of combat. A chariot is shown facing to right. Although most of the bottom of this painting is preserved, only the hind legs of the horses are shown on the ground. This shows that they were drawn rearing,



Attic Black-figured Column Krater.
B. Lion attacking bull.

FIG. 38.

which is very unusual. A close examination, indeed, of what is left of the design at the right reveals three or four hoofs in the air, belonging to the rearing horses, of which nothing else but the hind legs remain. On the ground is a fallen warrior, whom the horses may be thought of as pawing; while from the right, one of his comrades advances to attack the chariot. In the chariot is a warrior, while an enemy on foot appears to be attacking him from the rear.

All wear greaves, which are rendered in purple. Of none of them except the fallen one are the heads preserved.

The reverse of this vase has a decoration of animals, a lion attacking a bull being the central figures. Very little of this side is left. The subject of a lion attacking a bull is one of the very common themes of archaic Greek art. It is found in one of the pediment sculptures of the old temple of Athena on the Acropolis at Athens which is now on view in the Acropolis Museum, and frequently occurs



Chalcidian Oenochoe.

FIG. 39.

on vases, the famous François vase in Florence being perhaps the best known example, where a group almost identical with the one shown here is represented.

4. A black-figured oenochoe, or pitcher (Fig. 39). This vase may be Chalcidian rather than Attic, and, if it is to be regarded as Attic, shows marked Chalcidian influence. On the vase, Hermes is represented, facing two warriors with helmets, round shields, and greaves. Between these two warriors flies a bird. At the right is a draped, bearded man, carrying a spear. The incised work of the crests of the helmets is particularly delicate and fine.

5. A drinking cup without handles, but with a most dainty design of a bird in black, on a small medallion in the center of the interior (Fig. 40). There is no other decoration. With this cup may be grouped five other smaller ones, of varying sizes, undecorated, but nearly entirely preserved.

6. The best vase to be mended is a red-figured kylix, or drinking cup, of the "late severe" or "early fine" style, 460-450 B. C. (Fig. 41). These kylikes represent the finest work of the Greek vase painters, who in their pride often affix their names to the vase, with the



Black Figured Cup.

FIG. 40.

formula, "— made it," or "— painted it," the verb in the former instance being *ἔποίησεν*, and meaning that the man was the owner of the establishment that produced the vase, in the latter case, *ἔγραψεν*, and meaning that the man who signs is the actual artist. By means of these signatures it is possible to assign certain vases with no signatures to their proper ateliers, as can very readily be seen. This cup is unsigned; but in delicacy of design, and in daintiness of execution it is worthy of the signature of its producer.

The study of Greek vases has been greatly advanced in this

generation by the work of Hartwig and Furtwängler, who were the pioneers in the difficult work of attributing vases to their makers, and who discovered several new painters, whose names, unfortunately, are unknown, but of whom a number of vases exist, obviously by one hand, and not by the hand of any painter whose name we do know. This work has been most successfully continued by the English scholar, Mr. J. D. Beazley, who has brought to the careful study of Attic red-figured vases an acuteness of perception amounting to genius. Mr. Beazley, through an unequaled knowledge of



Attic Red-figured Kylix, by "Penthesilea Master."
Ladies at their toilet.

FIG. 41.

the museums of Europe and the United States, has been able to bring together no less than sixty new "masters" of the red-figured technique, and to give lists of vases by their hands. He has also added materially to the lists of vases by painters previously known or identified.

All of the work of Hartwig, Furtwängler, Pottier, Beazley, and other authorities on the assignment of Greek vases to their proper masters has been brought into convenient form, in two volumes, by Dr. Joseph Clark Hoppin, himself a distinguished student in this

field, and made easily accessible to the investigator. Dr. Hoppin is well known in Philadelphia, as for many years, and again during the late war, he held the chair of archaeology at Bryn Mawr College. The writer would like here to express his gratitude to Dr. Hoppin for this most valuable work.

It is, therefore, not impossible to attribute the kylix under dis-



Campanian Stamnos.
Dionysian Scenes.

FIG. 42.

cussion to its maker. The process is much as we should use in attributing an unsigned Italian canvas to its painter. First we look at the drawing in a general way, to see in what period of the Attic red-figured ware it belongs. We then, having found this period, examine carefully the work of the masters of the period, and see which one it most closely resembles.

From the preliminary examination, we find that our cup belongs at the end of the "severe" or the beginning of the "free" or "fine" style of the Attic red-figured technique. This we can tell by the way the eyes of the figures are drawn, an increased freedom of rendering, and other hints of style. This would put the vase in the decade between 460 and 450 B. C.

The problem now becomes more exacting—to attempt to identify the painter. Each of the artists specified by Beazley or Hoppin as having worked in this period is passed in review, and a comparison made between drawings or photographs of vases by his hand with the cup we are trying to identify. Sometimes actual specimens in the collection in the Museum may be used for purposes of comparison.

The opinion of the writer is that this vase is the work of a man first identified by Furtwängler, and called by him, "the Penthesilea Master," from his principal work, which is a picture of Achilles slaying the Amazon queen Penthesilea, on the interior of a kylix in the Pinakothek in Munich. This painter was very prolific, and very uneven in his work. No less than fifty-two vases in different museums and collections have been assigned to his hand, by various scholars, some of which are among the most magnificent specimens known, while others are drawn with crudity, and childish carelessness. Often the same kylix will show the interior beautifully drawn, while the exterior is execrable.

In studying the Penthesilea master, the writer was aided by the fact that four kylikes in the Museum's collection had already been attributed without dispute to his hand. There are also kylikes by him at the Academy of Natural Sciences and at Bryn Mawr College, and a kalpis, or small water-jar, in the collection at Memorial Hall. This gives the student of his style a wealth of material in Philadelphia for study and comparison.

This kylix, which has been rescued from fragments, represents one of the average works, perhaps even a little above the average, of the Penthesilea painter. The drawing is neither absolutely careless, nor is it at all magnificent: it is, indeed, one of which no vase painter need feel ashamed, but it has little spontaneity or originality of conception. It is merely a good piece of routine work from the master's hand. The scenes are the commonplace ones of ladies at their toilet, rendered, however, with much daintiness and sympathy.

7. Last of all, comes a vase that is not from Attica, but from

Southern Italy (Fig. 42). It has been restored as a stamnos, with a short neck, but it may have been a hydria or kalpis, for carrying water. It is decorated with a single frieze of satyrs, Maenads, and centaurs. The flesh of the female figures is in white, the satyrs sit on panther skins rendered in white, and the horse part of the one centaur preserved is of that color. The handles are molded in the form of serpents. One of these handles has been restored.

Four techniques exist side by side among the Greek vases of Southern Italy: the so-called "Paestum style," the Apulian, the Campanian, and the Lucanian. It is hard to tell whether the vase in question is Apulian or Campanian, but it is one of the two techniques. Personally, the writer is inclined to believe that it is Campanian, on account of the large amount of polychromy, which is a characteristic of the Campanian ware; for, besides the abundant use of white, red is also found for certain details. Apulian vases, however, are also apt to have a good deal of polychrome decoration; and it is an admittedly hard matter often to distinguish Apulian from Campanian vases. If, however, this vase is to be considered as Campanian, it assumes a good deal of importance in the Museum's collection; for it is the only specimen of that ware in our possession, our other South Italian vases being Apulian, which is by far the most common of the four techniques.

The mending and putting together of these fragments, has resulted, as we have seen, in the bringing to light of a number of interesting specimens to the prominence that they deserve. They are a distinct addition to the collections of the Mediterranean Section.

S. B. L.

ANCIENT HELMETS FROM ITALY

DURING the war it was a commonplace subject of conversation, and of articles in the newspapers and magazines, that for defence the soldiers of the different belligerent nations were reverting to the ages of the past. Much was said of the helmets worn by the French and Germans, and of the "tin derbies" popular with the British and American troops, as being veritable reversions to a bygone period. Experts in the history of arms and armor were called into consultation, to devise protection, by means of helmets and body armor, for the heads and bodies of storm troops. It is, therefore, worth while to study the prototypes of these defensive weapons.

In the Mediterranean Section of the Museum there has been for a long time on exhibition a collection of ancient armor from Italy. Some of it is indigenous to the soil on which it was found; some of it was imported from other parts of the ancient world. It will be profitable to study it, and see in what respects it resembles, if at all, the armor lately worn by the different belligerent nations.

By far the most interesting object of the collection is a helmet, found in the tomb of a warrior, that was excavated for the Museum at Narce in Etruria, in 1896 (Fig. 43). The fact that helmets like this have been found in deposits of the so-called "Villanuova" period, which is Italic, and pre-Etruscan, and that their provenance is not confined to Etruria, marks them as of a civilization that existed in Italy at a very early date, perhaps anterior to the seventh century B. C. This is further confirmed by the pottery and other objects associated with them, which shows the primitive state of culture of the people in whose tombs they are found. It is interesting to note, speaking of pottery, that ancient clay copies of these helmets have been discovered, which were apparently used as covers for cinerary urns. Examples of these covers can be seen in the Villa Giulia Museum in Rome.

In height and diameter, the helmet in the Mediterranean Section towers above all previously known specimens. It is also far more elaborately ornamented than any example previously published. The crest is richly adorned on both sides with rows of dots and

knobs of various sizes, which come together at the top, leaving a triangle at the center of the crest, just at the apex of the crown. This triangle encloses a large circular boss, tangent to its three sides.

The crown of the helmet was no less richly decorated, with rows of bosses, and incised decoration. On each side, below the



Helmet from Narce.

FIG. 43.

crest, are three long, heavy bronze rivets, which served the double purpose of clamping together the two sheets of bronze from which the helmet was made, and of attaching the crest. It was worn "fore and aft," with the rivets at front and back respectively.

Other objects found in the tomb with the helmet are a canteen of coarse pottery, with a groove around its edge, into which fitted

the strap by which it was carried over the shoulder; several bronze razors, and fibulae, or brooches, and a large collection of ornaments for the harness of horses, as well as a fine pair of bronze bits, similar to those we use today. Assuming that these objects were used by the warrior, and are not merely votive offerings, let us see if we can deduce anything as to his physique and general characteristics. He was probably a man of good stature, with a large head, and probably wore his hair long, and in thick ringlets or waves. This is shown



Corinthian Helmet. Early Type.

FIG. 44.

by the size of the helmet, which would be large for most men today, but which would not be so large if we imagine it resting on a head of thick, long hair. Then, too, the helmet was doubtless lined or padded, for the comfort of the wearer. I imagine him to be a man of a good height, by reason of the height of the crest of the helmet. No short man could wear becomingly or convincingly a helmet with such a high crest. That he was a man of action, and lived solely for war, is proved by the class of objects found in his tomb, all of which are of warlike significance. Like many primitive

peoples, he was intensely superstitious; this is shown by the presence of a "bulla," or case for amulets, which he wore around his neck to avert the evil eye. The elaborate decoration of the helmet hints that we are dealing with no common warrior, but a tribal chieftain, and a man of some importance.

The next helmet to be described is of the type usually called "Corinthian," as it is first represented on vase paintings of the Corinthian style (Fig. 44). The provenance of this specimen is



Corinthian Helmet from Ascoli Piceno.
Front View.

FIG. 45.

unknown, but it was acquired in Italy. If its original finding place was also Italy, it was probably a Greek importation, or made in one of the colonies of Magna Graecia. It is the earlier type of Corinthian helmet, dating in the end of the seventh or beginning of the sixth century B. C., and has a straight back and sides. The fact that it is of equal thickness throughout, and that the bronze is nowhere reinforced, is also an early sign.

It is especially to be noted that no provision is made on this

specimen for applying a crest. It has been suggested that, while on vase paintings and elsewhere these helmets are usually depicted with crests, such crests were not worn as a matter of practice, as they added weight to a piece of armor already very heavy and cumbersome in itself, and made more so by reason of the thick lining or padding, which it was necessary to wear under the bronze.

A later "Corinthian" helmet in the collection came from an excavation conducted in 1896 near the modern town of Ascoli Piceno in Italy, the ancient Asculum, which was the capital of the district



Corinthian Helmet from Ascoli Piceno.
Side View.

FIG. 46.

of Picenum, and was not subdued by Rome till 268 B. C. (Figs. 45, 46). In the local museum are a large number of objects from prehistoric tombs, excavated in the district, which are very similar to the objects associated with this helmet, which were brought to Philadelphia at the same time. When found, the helmet was in a very poor state of preservation, and many repairs and restorations were necessary; the nose piece, for instance, is of iron, and from another specimen. The helmet belongs at about the middle of the sixth century B. C. Here we have the back shaped to fit the neck

and head, and, in front, the cheek pieces sunk in, to conform with the general outline of the face. A generous space is left in the crown to provide for the heavy padded lining, worn, not only for comfort, but to increase the resisting power of the helmet against a blow. But, owing to the shaping of the helmet, padding was probably



Etruscan Helmet.

FIG. 47.

necessary nowhere else, except at the neck, and at the bottom, where it joined to a breastplate. In later specimens, as, for instance, the splendid example, No. 1530, in the Metropolitan Museum in New York, the bronze is heavily reinforced in the cheek pieces and nose piece, where it is, therefore, much thicker than in the rest of the helmet. This is a late sign, and is not found on the helmet from

Ascoli. This helmet was originally provided with a crest, and on the back is a hook, which kept the crest in place, while its principal fastening was to a specially reinforced strip that was placed at the apex.

From the large number of objects found in the tomb with the helmet, and from the fact that the helmet itself is of a type not indigenous to the region, and was an importation either from the Greek colonies in Southern Italy, or from Greece itself, it follows that its owner was a man of considerable importance; either a



Roman Helmet.

FIG. 48.

chieftain, or a man who had made for himself, either in war or trade, a good standing in his community.

The next helmet is of a type popularly known to students today as a "Jockey-cap" (Fig. 47). It is of Italic, and probably Etruscan origin, and helmets like it are very common in Italian and Gallic tombs of the fourth and third centuries before Christ, the Gauls having probably adopted this form of helmet from the Etruscans. The apex originally ended in a knob; but the helmet is now shattered by a heavy blow, which may have come from a mace, or from a

rock hurled by a ballista, and which must have resulted in the death of the wearer.

Around the narrow brim, and the short peak at the back, runs a plait or rope pattern, with a crude knot device in the center of the front, while the base of the helmet is ornamented with a rough linear and herring bone decoration. At the sides are hinged cheek pieces, one of which is a modern restoration. The provenance of the helmet is unknown.

The small bronze statuette numbered 128, in the east room of



Roman Helmet.

FIG. 49.

the Mediterranean Section, in Case XXV, is of Etruscan workmanship, and shows a warrior wearing a helmet of the "jockey cap" type.

The next two helmets are of a different class, and are of a type which had a long period of development. Specimens have been found in tombs of as early a period as the seventh and sixth centuries B. C., and extend down to the end of the third century B. C. They are apparently purely Italian in origin, and have been found on the battlefield of Cannae (216 B. C.), showing they were the headgear

of the Roman army, at the time of the Second Punic War. They are not found in Greece.

The earlier of the two (Fig. 48) is undecorated, save for indifferent representations of the head of a lion and a horse, sticking out from the crown, at front and back, respectively. A ridge runs along the center of the crown from front to back, but otherwise there is no decoration.

It is impossible to date this specimen exactly, as its finding place is unknown, and it is not a member of any tomb group, so that we have no contemporary objects found with it, by which its date might be ascertained. It is, however, reasonably safe to say that it antedates the other specimen, which is late in the evolution of this type.

The second helmet (Fig. 49) corresponds very closely with a fine example in the Metropolitan Museum in New York, No. 1558, which is assigned to the third century B. C. On each side is a large hemispherical boss, the purpose of which was to stop a glancing blow on the head, or to deflect a blow from above. The helmet was fitted with a crest, which ran along the top of the crown, in the broad groove shown in the illustration. This crest was further fastened in position by attachment to two little tongues, jutting out from the helmet, one at the front and one at the back, each pierced with a hole, through which ran a cord or thong that tied the crest into place. This crest was probably very low and stiff, and was of service, not only as a decoration, but for turning a blow.

It will be noticed that the helmets are very different from those developed by modern warfare; but the principle involved is the same; to deflect blows on the head in the most efficient manner possible. The last two helmets to be described, bear, in point of fact, some resemblance to those worn by the French "*poilus*": while the German *casques*, the ancestry of which is purely medieval, have, nevertheless, a neck protection something like that found on the "Corinthian" helmets. It is not a wild speculation to suppose that, in a future war, when nations may seek more efficient protection for their men against modern weapons, these ancient helmets may offer valuable suggestions to military men and inventors, for the preservation of life.

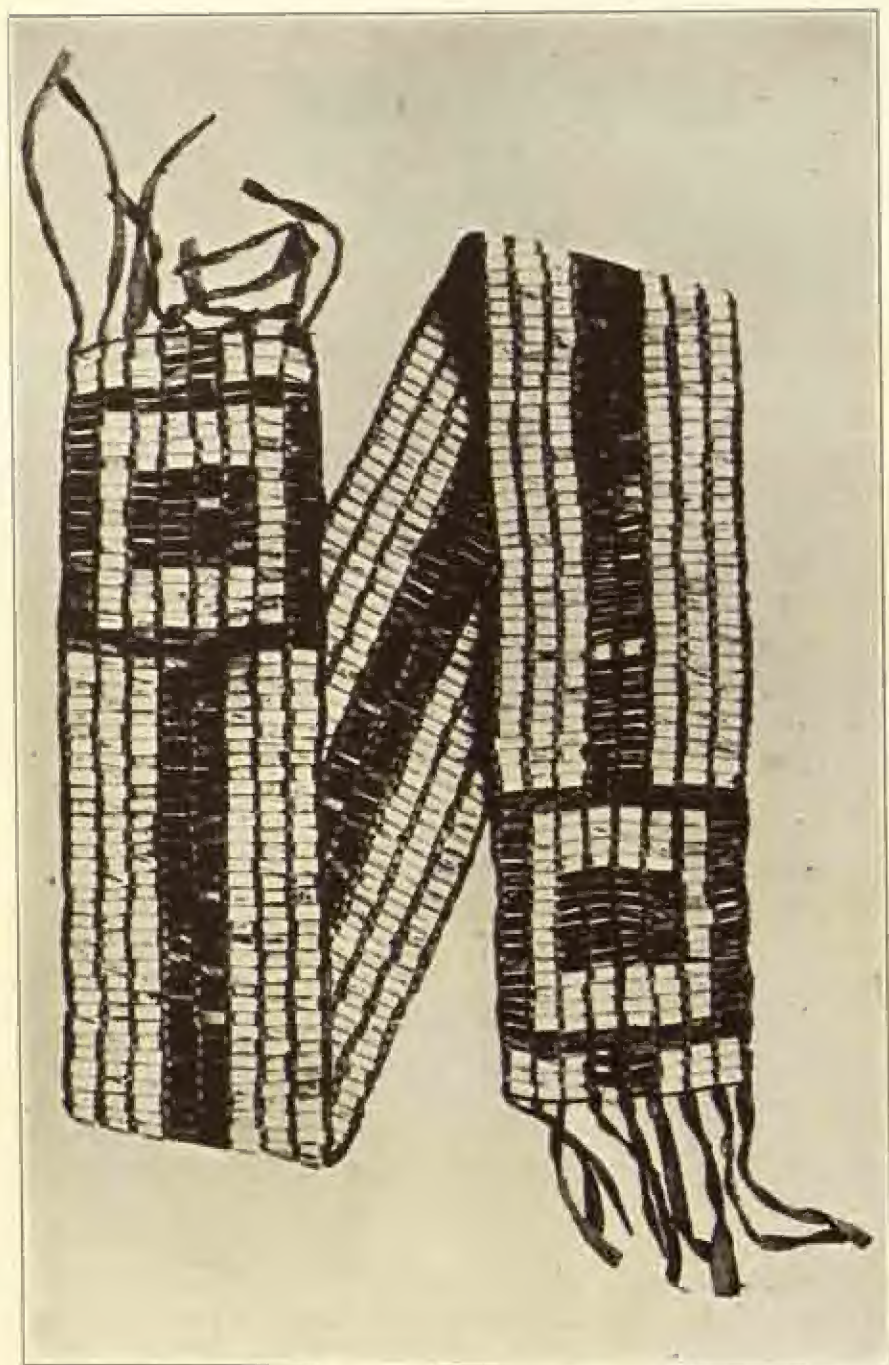
S. B. L.

A NEWLY ACQUIRED WAMPUM BELT

IT is a well-known fact that wampum, or shell money, was in general use throughout the Atlantic coast in very early historic times and it is quite probable that the American Indians employed it as a true medium of exchange in a manner corresponding to our use of money even before the advent of Europeans. These shell beads may have become such a medium through their use as ornaments in regions distant from their place of manufacture. They were prized everywhere as ornaments and as such their value would become standardized. The basis for the establishment of a standard was the difficulty in shaping and perforating the beads. There was no possibility of destroying the standard of value by over production.

Wampum was made from several kinds of shells found along the Atlantic coast but the quahog, or common hard shall clam, and the periwinkle were in most favor. Great patience and considerable skill were required in the manufacture of the beads. On account of the intense hardness and brittleness of the shell the work of grinding and drilling was done by hand. Extreme care had to be exercised lest the bead should break from the heat generated by the friction of the drill. The hole was bored by holding the bead with the left hand against the end of the drill while the shaft was rolled on the thigh with the right hand. When the hole was half way through the bead was turned over and drilled from the other end. After drilling the beads were strung, ground to perfect cylindrical form, smoothed and polished. Anyone who wished to do so might make the beads, there was no monopoly. The English made an attempt to manufacture them by machinery but without success. Inferior ones were made by the whites and put into circulation but so much complaint was made by the Indians about these counterfeits that ordinances were passed to prevent their use.

Wampum was made in two colors; white, from the periwinkle, and purple, from the quahog. The value was determined by the color and finish. In New England, wampum so completely took the place of ordinary coin in the trade between whites and Indians that a value in shillings and pence was fixed by law. Connecticut received



Wampum Treaty Belt.

FIG. 50.

wampum for taxes in 1637 at the rate of four white or two purple beads for a penny. Three years later Massachusetts adopted the same standard of exchange and continued to use it well into the eighteenth century.

A very large proportion of the white beads especially were employed for personal adornment and for the embroidery of various articles of dress for both men and women.

Strings of wampum were used by the Indians for mnemonic records much as the Peruvians used the quipu of knotted cords. In making up the strings into belts it was possible by using all white, all purple, or by a combination of the two colors, to convey a variety of ideas, indicated by the sequence of the colors or the outlines portrayed. It was thus possible to express a number of ideas with clearness. The keeper of the wampum was thoroughly versed in the interpretation of the records and once a year he took the belts from their place in the treasure house to recite their significance to the public.

For use in ritual and ceremony, white was auspicious and indicated peace, health and good will, while on the contrary purple indicated sorrow, death and mourning. A string composed entirely of purple beads was sent by one tribe to the chief of a related tribe to notify him of the death of a chief. A white string tinged red was sent as a declaration of war. A purple belt, having a hatchet painted on it in red was sent with a roll of tobacco to a tribe as an invitation to join in war.

Belts were employed for official communications and for summoning councils. The selected delegates from other tribes presented belts as their credentials. At the opening of the council an address was made to the representatives from each tribe in turn and a belt given them which they preserved as a substitute for a written record. The following extract is from an address at the opening of a council held in the Muskingum Valley in 1764. (From Brice.) "Brothers, with this belt I open your ears that you may hear; I remove grief and sorrow from your hearts; I draw from your feet the thorns that pierced them on the way; I clean the seats of the council house, that you may sit at ease; I wash your head and body, that your spirits may be refreshed; I condole with you on the loss of the friends who have died since we last met; I wipe out any blood which may have been spilt between us." With each expression a belt was presented.

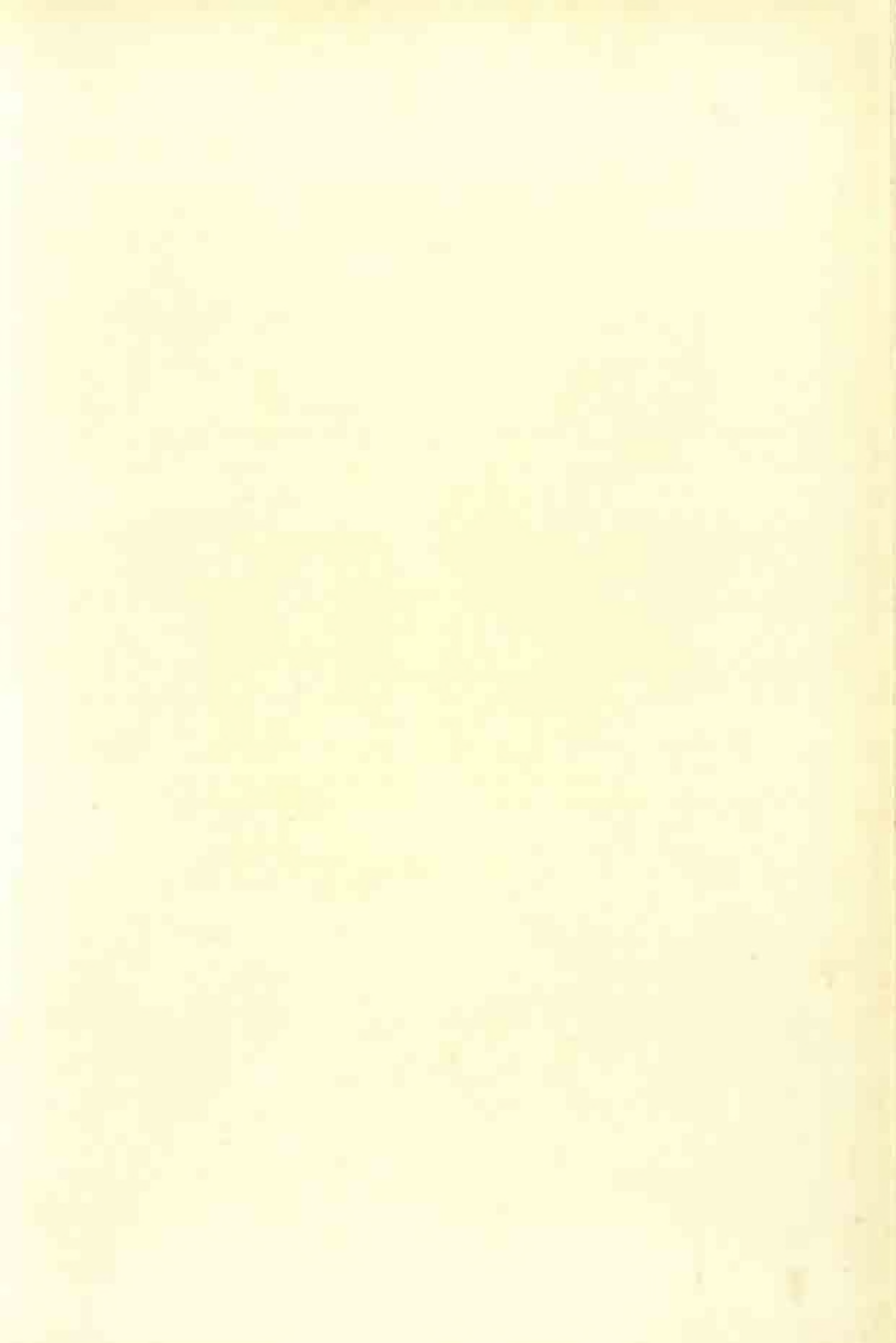
Belts were used also for the ratification of treaties and the con-

firmation of alliances. The treaty belts were made of white beads with appropriate figures or designs in purple. The familiar belt which the Lenape Indians gave to William Penn is white with figures of two men in purple standing in the middle of the belt with clasped hands. When Washington was sent by the Governor of Virginia on a mission to the wilds of western Pennsylvania, he found that the French had made an alliance with the Indians and had given them a belt with four houses on it representing the four posts to be defended. Washington persuaded the Indians to withdraw from the alliance and they returned the belt to the French commander. Roads from one friendly tribe to another are generally marked by one or two rows of beads running through the middle of the belt from end to end. It means that they keep up friendly intercourse with each other.

In 1758 when Governor Denny sent Frederick C. Post to make a treaty with the Allegheny Indians he sent with him a large white belt with a figure of a man at each end and a streak of purple between them representing the road from the Ohio to Philadelphia. Post, adopting the Indian style of speech, said in presenting it, "Brethren of the Ohio, by this belt I make a road for you, and invite you to come to Philadelphia, to your first old council fire, which we rekindle again, and remove disputes, and renew the first old treaties of friendship. This is a clear and open road for you; therefore fear nothing and come to us with as many as can be of the Delawares, Shawnees or the Six Nations; we will be glad to see you; we desire all tribes and nations of Indians who are in alliance with you may come."

The belt here illustrated appears to be one of the type used in making treaties and in expressing friendly greetings. The squares, no doubt, are meant to represent two villages and the purple line the pathway between them. It is to be regretted that the exact history of this belt has been lost. The same regret may be expressed for the loss of the complete history of practically all wampum belts.

W. C. F.





A COLOURED MARBLE STATUETTE
FIRST CENTURY B. C.

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THE MEDITERRANEAN SECTION

CRETE

Crete, sometimes aptly called "the halfway house between Egypt and Greece," was, during the third and second millenia B. C., the center of a high civilization which was snuffed out by barbarians from the north and forgotten by subsequent generations. A few faint echoes of that vanished civilization ring in the legends current in historical Greece: Zeus was born in Crete; to Crete he carried, from Asia Minor, his bride Europa; and in Crete he died. Cretans long pointed out his burial place, and thereby drew upon them for their blasphemy the opprobrium of all religious Hellenes. "The Cretans are always liars," says St. Paul, quoting Callimachus, the Greek poet. The two sons of Zeus and Europa, Minos and Rhadamanthys, were at the end of their lives translated to Hades, where they sat in judgment on the dead. In life Minos was the more famous of the two. He was the great lawgiver of Crete, a mighty sea king whose power extended not only to Greece but possibly to Sicily. He conquered Megara and Attica. This last is admitted by the Athenian legend of the seven youths and seven maidens sent as recurrent tribute to Crete to bait the Minotaur, the bull of Minos. How serious this tribute was may be inferred from the joy of the people at its remission, in token of which every year until at least the third century B. C. the traditional galley of Theseus, kept in repair from year to year, was sent on a sacred voyage to Delos with solemn sacrifices of purification, and with especial envoys. During the days of the voyage, the city could not execute criminals nor perform any act entailing public impurity. So Socrates, condemned to death for impiety, was granted a reprieve for thirty days until the sacred galley should return to Athens.

All the historical background for these legends had, as has been said, vanished for centuries until the digging of British, Italian and American excavators in Crete unearthed treasures of that astounding culture which was lost but dimly remembered in the days of Homer. "*Vixere fortes ante Agamemnona.*" (There were brave heroes before Agamemnon.) Of their arts, their houses, and their gods considerable information has been gained. Of their stone-ware and pottery, their stone and bronze implements, the expeditions of the University Museum have brought back to Philadelphia representative specimens. These are grouped according to a system of chronology generally acceptable to archaeologists. The whole civilization is called Minoan* from the name of Minos, which may be less an individual name than a dynastic title, as Pharaoh in Egypt. There are three eras of Minoan culture, early, middle and late, each of which is subdivided into three periods—I, II, III.

MINOAN CHRONOLOGY

Early Minoan I.....	Before 2800 B. C.
Early Minoan II }	About 2800-2200 B. C.
Early Minoan III }	
Middle Minoan I.....	About 2200-2000 B. C.
Middle Minoan II.....	About 2000-1800 B. C.
Middle Minoan III.....	About 1800-1600 B. C.
Late Minoan I.....	About 1600-1500 B. C.
Late Minoan II.....	About 1500-1350 B. C.
Late Minoan III.....	About 1350-1100 B. C.

The greatest age of the Minoan civilization is spread over the period from 1600 to 1350 B. C., Late Minoan I and II. Between Late Minoan II and III there is a break, caused by some catastrophe, invasion perhaps, from which there is a valiant effort at recovery. The last period, Late Minoan III, is generally called the Mycenaean Age, because the centers of civilization were Tiryns and especially Mycenae in Greece. This was the age about which the Homeric poems were written, poems written long afterward in memory of a time that was no more. There is no decay to the Minoan civilization. In its glory it was snuffed out at the end of Late Minoan III by

*Some scholars prefer for this civilization the name "Ægean," because traces of the culture seem to be limited to the neighborhood of the Ægean Sea.

another and greater disaster, which completely destroyed the life and spirit of these people, and with that fell the night of the dark ages that preceded the glorious renaissance which we call historical Greece.

POTTERY

CASE I.

The Cretan collections are exhibited in cases I-IV, inclusive. In case I is pottery, arranged chronologically, so far as possible. The shapes, it will be seen, vary considerably, but a few are especially characteristic of the Minoan culture. Some of these are so peculiar as to warrant special notice. There is, for instance, a jug on a low foot, a sort of pitcher, with its spout prolonged into a large beak (No. 3). A second shape is the stirrup jar or false necked amphora, so-called because there is no outlet between the handles, but the neck is sealed and a spout is inserted at the shoulder. This shape is very common in the Third Late Minoan period. The finest specimen of this shape is the famous octopus vase, reproduced in case IV, alcove C No. 13 (West Room), a very round vase decorated with a masterful naturalistic design of marine forms, dominated by the waving arms of an octopus. A third characteristic shape is the filler. This is a tall, slender vase tapering to a pointed base, which is always pierced by a hole. It served, apparently, as a funnel. Its most famous representation is on the fresco of the Cupbearer. Varieties of this shape are seen in No. 182 and No. 189, the former being especially noted for its naturalistic marine decoration. A fourth shape much affected in this civilization, and later forgotten, is analogous to the modern tea cup (No. 40). Sometimes this cup is made with a high foot (No. 171), a shape very popular with metal workers of the Mycenaean Age.

*East
Room*

Sizes, it will be seen, vary more than a little. There are many variations possible between the miniature or toy vases (No. 47) and the huge pithoi or storage vessels (No. 211), used as containers of grain, oil, etc. Some such vessel as this last must have constituted the famous tub in which Diogenes, the cynic, later lived. In general, large shapes are characteristic of the Late Minoan Age. Two varieties of the large jars are important.

(1) The so-called Mycenaean amphora, with handles in groups of four, or multiples of three (No. 205).

(2) The long necked jar with two handles, a shape which persists in the later Dipylon amphora (No. 206).

Common household utensils are represented by the brazier (No. 60) and the cooking pot on three legs (No. 55), used in Gournia more than 3,500 years ago. A large water flask (No. 204) is of the same shape still found practicable for canteens.

In the decorated pottery can be traced the evolution of potters' ornamentation. The earliest specimens are not decorated, but sometimes are mottled by the firing (No. 3). When decoration begins, the primary idea is realism. Accordingly one finds employed vegetable (No. 183) and marine forms (No. 182); the naturalistic develops into the conventional (No. 187), the coils of the nautilus suggest spirals (No. 189); and finally comes the geometric (No. 194), in which is found the last flicker of decorative genius, after the destruction of the Minoan civilization.

STONE VASES

CASE III.

The Cretans learned from Egypt the art of working stone. A number of stone vases in case III, from various sites in Crete and from the island of Mochlos, range in date from the First Early Minoan period to the Third Late Minoan. Stone vases were made, then, throughout the Minoan civilization, but the finest are products of the First Early Minoan period. The materials used are steatite (a sort of soapstone), soft veined marble and alabaster. As the art of pottery making was developed, less interest was shown in stone vessels, which, of course, were hard to work, for the stone cutters' tools were of bronze, iron being as yet unknown. In general, the latest specimens are distinguished by very thick walls and a correspondingly small containing space (No. 115 or No. 133). No hard and fast rule is, however, possible, for of the three alabaster vases (Nos. 95, 96, 98) all of which have very thin walls and are very skilfully worked, No. 95 and No. 96 are of the First Late Minoan period, and No. 98 is of the Second Early Minoan period—a difference in date of nearly 1,000 years. The Late Minoan period produced at least one pleasing shape, typically Cretan, the so-called blossom bowl, of which the Museum possesses two specimens (Nos. 97 and 107). The name comes from the working of the outer surface to represent leaves with strong midribs that rise from the base and sheathe the bowl.

LAMPS

CASE IV.

Stone as well as clay was used also for lamps, a number of which will be found in case IV. These are low and open, with two diametrical depressions cut into the broad rim to afford a rest for the end of a floating wick. Such lamps are portable, but many Cretan lamps have a high foot (case III, No. 62). Whether on a high foot or not, typically Cretan lamps have certain peculiarities.

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Room*

(1) They have open shallow bowls with a broad rim which is frequently grooved.

(2) They have two diametrical depressions for wick rests.

(3) They have two diametrical "ears" depending from the rim and placed always equidistant from the wick rests.

MISCELLANEOUS OBJECTS

CASES II AND IV.

A miscellaneous collection of objects, mostly from Crete, is displayed in cases II and IV. Most of the objects come from Crete, but there are included also some neolithic sherds from Thessaly in Northern Greece (No. 90). The collection includes bronze knives, pins, fish hooks, needles from various sites in Crete, spindle whorls, and a collection of Cretan sherds, interesting for a study of decoration on pottery.

ANTIQUITIES FROM CYPRUS

CASE V.

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Case V is devoted to Cypriote vases and crude sculptures. The culture of Cyprus is distinct from that of Crete and Greece, and peculiar to itself. The Cypriotes seem to have been quite devoid of artistic feeling; they could not even copy well. Their pottery is at best crude, and frequently it is asymmetrical; the decoration is applied in defiance of architectonics—note especially the vertical circles (No. 30) and the upright arrow (No. 38).

There is a definite chronology after which the art of the island of Cyprus follows. First, there are two great ages of native endeavor, the Bronze Age and the Iron Age. Each is divided into three periods—Early, Middle and Late. The three periods of the Bronze Age approximate the Early, Middle and Late Minoan periods in Crete. In the Late Bronze Age, Ægean influence manifests itself in Cyprus. It is due, doubtless, to Cretan colonists, or perhaps Cretan refugees, who taught the Cypriotes the use of the wheel and impressed upon them the Mycenaean style of pottery. The three periods of the Iron Age are:

The Transitional period 1200–1000 B. C.

The Geometric Period 1000–750 B. C.

The Graeco-Phoenician Period 750–500 B. C.

After this, Cypriote art feebly imitates successively the Hellenic, until the time of Alexander the Great, the Hellenistic, and the Roman. Native Cypriote pottery is confined to the Bronze and Early Iron Ages. In the Early Bronze Age, it is generally not decorated (No. 1) although some is incised (No. 4). In the Middle Bronze Age, it is decorated with black or brown umber on cream clay (No. 17). In the Late Bronze Age, the clay is covered with a white slip on which is painted linear decoration to imitate the stitching of leather vessels (No. 22), or again, base ring ware is made (No. 24). This is a fabric which takes its name from the fact that the vessel rests on a base formed by a clay ring.

More Cypriote objects are in case VII—spindle whorls, bits of bronze and silver from implements in daily use and from ornaments, some crude figurines of birds, animals and women. The latter



A RED-FIGURED AMPHORA SIGNED BY THE POTTER MENON
VI CENTURY B.C.

are particularly interesting as showing the crudest efforts to model the human figure, probably here intended to represent the Earth Goddess, the power of fertility in whose honor the shrine (No. 55) was made. This shrine is very like a shrine in the Babylonian Section, and is the result of influence from Mesopotamia—influence spread westward through the Phœnicians.

East
Room

After considering the crude pottery of the Cypriotes, one cannot be surprised at finding that their sculpture is likewise crude. The heads (case V, Nos. 31-33) and the group of the squirrel with its young (*ib.* No. 40) are not altogether fair samples of Cypriote plastic art, but in the Babylonian Section there is a cast of a Cypriote relief which shows Herakles capturing the cattle of Geryon (9484), and which gives a good idea of the limitations of the ability of these people.

GREEK VASES

East Room The first distinctly Hellenic pottery fabric is the geometric. It is generally considered to be not a decided break from the ware of the earlier Ægean civilization, not a ware made by the invaders, but rather a continuation of the peasant pottery, which had been submerged under the finer Ægean fabrics. According to this theory, that age of the Ægean civilization showed in the Mediterranean two strata of culture—that of the Ægeans themselves, with their advanced and naturalistic art, and that of the peasants, Pelasgians, as they are sometimes called, who served the Ægean overlords, and were of a different stock. When the power of the Ægeans was broken, and their art destroyed by the invaders from the North, the peasant pottery with its linear and geometric ornament was the sole remnant of art to manifest itself through the dark ages before the dawn of history. This geometric pottery is in some of its best phases decorated with motives crudely reminiscent of the Mycenaean, as if some vague tradition of superior decoration were still handed down among a people who had not the skill nor the training to realize their dreams. The complicated wave and checkerboard pattern on the Cretan geometric pot (case I, No. 194) is a direct survival of Ægean motives; and it is possible to trace the postures of certain birds and animals, as well as of human figures, on Attic and Boeotian Geometric ware back to the Mycenaean. Geometric pottery is widespread through the Mediterranean area—Crete and Italy as well as Greece. It is a mistake to think of it as a local fabric, made here and there at different periods. It is rather a general manifestation of art, appearing at a certain stage of cultural development in many regions of the Mediterranean from the ninth century through the seventh century B. C.

In the seventh century, we begin to note a phenomenon which is to remain marked and important in connection with all Hellenic pottery—namely, the differentiation of local fabrics and the temporary ascendancy of one of these fabrics over another. In the seventh and sixth centuries B. C., the great center of pottery making is Corinth. Its products are supreme until about the middle of the sixth century. Then rival fabrics come into competition with the Corinthian, among them one which has close stylistic relations with the Corinthian—namely, the Chalcidian (case VIII, No. 39), a ware

made in Chalcis in Euboea. At this time Ionia, in Asia Minor, becomes prominent as a center of the manufacture of pottery (case VIII, No. 42). Probably the so-called Caeretan hydriae, which have been found at Caere (the modern Cervetri) in Etruria, as well as "Tyrrhenian" amphorae (case VIII, No. 41), were made in Ionia or the Aegean Islands. Ionian products very strongly influenced Athens, where a school of pottery was established, which by the end of the sixth century had outstripped all competitors. Athens maintained her supremacy as the chief center of the potter's trade through the fifth century into the early fourth century. But there is a decided decadence about the late vases, and early in the fourth century, vases cease to be made in Athens; the industry is shifted to South Italy, where in Lucania and in Campania, painted ware is produced in great quantities soon after the Peloponesian War. From the beginning of the fourth century on through the third, pottery tends to imitate metal technique. Fashion demanded bowls stamped with decorative patterns and figure designs. One of the most famous of the varieties of molded pottery is Arretine red ware, made in Arretium (the modern Arezzo) in Tuscany in the first century B. C., and later (case IX, No. 56). Roman pottery in turn yields to Gaulish molded ware.

This shifting of the center of industry was very important to others than potters. It was due less to local outbursts of artistic genius than to the stress of business conditions. The economic history of the ancient Mediterranean world was never written. A skeleton plan for such a history can be worked out from the study of pottery, less from a comparison of the technique of various fabrics than from a study of the centers of manufacture and of the scattered places where given vases are found. This sort of study will show that after the Aegean sea power was destroyed, the Phoenicians were the trade carriers, but the first organized monopoly of trade was worked out by the Corinthians. It will show how Greek colonies established in Asia Minor, which had been the refuge of the last of the harried Aegeans, absorbed ideas from their new land, came into brief competition with the mother land, but succumbed to inertia, induced by the climate to which they had been transplanted, an inertia which rendered them powerless against the threatened danger from Persian domination; how their brief day of activity, as much as the increasing Eastern Peril, aroused Athens to commercial enterprise, which she made secure through her successful military undertakings, subjugating all rivals; how in her mad endeavor to establish

East Room an empire in the west, Athens overreached herself, and her business went to the traders of the north and to the Greeks in the West; how Rome absorbed all, and in turn, as she settled in the sleek comfort of her established supremacy, let her trade slip away to the hands of the enterprising Gauls. Cheap fabrics tell much of price cutting and market flooding, of merciless competition.

Even a brief sketch of the Hellenic fabrics represented in the Mediterranean Section must convince one that classical archaeology far from being concerned only with a dead past is the science of a life which, although vanished, can be resurrected and found to be not wholly different from the life of today.

CORINTHIAN WARES

Cases VI and XI are devoted to Corinthian vases and to Italian imitations thereof. In case XI are exhibited some proto-Corinthian vases. Proto-Corinthian ware is distinguished by its small shapes. The decoration of the specimens here is mostly linear, but some crude animal figures are found. Three classes of the ware have been distinguished:

- (1) Vases with linear ornament.
- (2) Vases with geometric, incised ornament.
- (3) Vases with miniature figures, incised.

This third class is so different from the others that some archaeologists refuse to consider it as at all connected with Corinth.

What we call Corinthian ware proper is a product mostly of the seventh century B. C., when Corinth was the great center of Mediterranean trade. The city on the isthmus controlled the trade from East and West alike, and was a great center of industry and art. Her potters were famous. They had an ever ready market for their wares, not only at home but in the "booming" West. Their inspiration they drew from the art of the East, which the commerce of the city opened up to them. From this rich source they borrowed the lions, sphinxes, long horned goats and exotic decoration in which their pottery abounds, and which gained for it the caption "Orientalizing." To Morin-Jean's study of the design of animals on Greek vases we owe the most comprehensive appreciation of the work of the Corinthian potters. As he points out, they were not artistic;

they were chiefly concerned with turning out quantities of products; but despite all this, they were the first designers in the history of art. the first to adapt subject to space, the first to appreciate the decorative effect that can be attained by altering the real proportions of any given object in order better to fill a given space—*e. g.*, by making animals in a frieze short legged and long bodied, and those in a panel short bodied and long legged. Their decorators evolved certain patternlike treatment of animal figures—a stereotyped manner that is peculiarly and unmistakably Corinthian. The clay is yellowish; the decoration laid in friezes of animals, birds and fantastic figures, with the background filled in with rosettes, which also were borrowed from the East. The painting is done in silhouette, helped out by ample incision. The treatment of wings of birds, sphinxes and sirens is peculiar to this fabric, and may be detailed by way of indicating one of the many earmarks of the ware. The upper part of the wing is divided into two parallel bands, curving to follow the angle of the wing, the upper always filled in with purple paint, the lower with black. Then come two parallel lines, incised, from which are drawn perpendicular incised lines which represent feathers. The spaces between these perpendiculars are frequently colored alternately black and purple.

The Italian imitations of Corinthian ware are generally to be distinguished by a crudeness of drawing and a heavy lifelessness of figure.

ATTIC WARES

Attic ware in the Museum is represented by four varieties of technique—Dipylon, black-figured, red-figured and white ground vases.

DIPYLON WARE

The earliest is the Dipylon ware (in west room) (case XXVI No. 126), which is a variety of the geometric, taking its shape from the long necked late Mycenaean jars and its decoration from scenes connected with the burial of the dead. The ware gets its name from the fact that it is found near the Dipylon Gate in Athens, in the necropolis, where the jars were used as a sort of grave memorial set up over the tombs. Indeed, some of the stone stelae which in historical times supplanted these jars are cut to give the profile of similar jars. The decoration on the Dipylon ware is in bands or

East Room friezes, frequently of chariots, for chariot races were an essential part of the celebration of funeral rites at that time. These jars sometimes have wound about them snakes, typifying the genius that dwells in the earth and is connected with the dead that lie in the earth.

THREE ATTIC FABRICS

After the establishment of a definite Attic school of pottery, Attic ware is differentiated into three chief fabrics, according to technique—black-figured, red-figured and white ground ware. The black-figured is the first of these techniques. In it the painting is done in silhouette, helped out by incision, and the addition of purple paint for details. The decoration stands out black against the reddish background of the clay (case XII). The subjects of the decoration are generally mythological—scenes from the epic cycle, the exploits of Theseus* or Herakles, and the like. The dominant shapes are the amphora, a jar of variant size, with two upright handles, the hydria, a water jar with two lifting handles on the shoulder and an upright handle at the back, used in steadying the jar. The amphora has decoration on both obverse and reverse, either in a panel (case XII, No. 116) or in a frieze (case VIII, No. 127), the hydria only on the front, with panels on the body and shoulder (case XII, No. 106). Other shapes are the deep cup or skyphos (case XII, No. 136), the wine pitcher or oenochoe (case XII, No. 70), and the drinking cup or kylix (case XV, No. 64). This latter shape is especially developed in the succeeding or red-figured technique, as will be seen by the examples in case XV. The covered bowls in case XIII, Nos. 73–76, are of rare shape.

The second sort of Attic vases is in the red-figured technique. In this the figures stand out in the natural red of the clay, and all about their profiles the ground is painted black. Details are no longer indicated by incision but by fine black lines. This class of vases is stylistically the most interesting, since the technique offers an opportunity for real drawing and draftsmanship. Among the vases of this sort it is possible to pick out certain ones that betray common characteristics of style, and thus to differentiate the style of individual painters. Some vases are "signed" by both potter and painter, some by one or the other. That is to say, they bear

* Case XII, No. 112, is a vase of especial interest, as showing how the Athenians of the sixth century B. C., who knew less of Crete than we do, regarded the Minotaur, the bull of Minos, as a bull headed man, a monster, not as the sacred animal shown on the Cretian fresco of the bull grapplers in the west room, No. 2.

inscriptions like this, "Hieron made me" or "Douris painted me." The first sort is called the potter's "signature" or trademark, the second the painter's. The study of styles, of course, starts with vases which bear such "signatures" or trademarks; but even unsigned vases can pretty surely be attributed on grounds of style to definite "masters." Mr. Beazley, the English vase specialist, has done very valuable work in this line.

There are in the red-figured technique four periods of development:

(1) The "severe" style, which shows stiff conventional figures, and is concerned with the problem of filling space (case XXXV, No. 120).

(2) The "strong" style, which attains real decorative effects and beauty of composition, a style best represented by the work of the cup painters, Duris, Hieron, Brygos painter, etc. (case XV, Nos. 102, 105).

(3) The "fine" style, which exhibits perfection of drawing and technique, which has pictorial scenes, a dim reflection perhaps of the work of the great painter Polygnotos (case XIII, No. 123, and case XV, No. 98).

(4) The "late fine" style, which is decadent, over refined and careless, which shows crowded figures and polychrome colors. It is fairly represented by the pyxis or toilet box (case IX, No. 131).

The finest red-figured vase in the Mediterranean Section is an amphora with twisted handles, showing on one side Apollo and Artemis and on the other Dionysos and a maenad (case VIII, No. 129); and the most unusual specimen is the large amphora (case XXXV, No. 120), bearing the unique potter's mark, *Μένων ἐποίησεν* "Menon made me." As a rule, mythological scenes are less frequent on vases of this technique. Commonly the scenes are those of every day life, and frequently when gods are represented they are in insignificant pose.

Many of the vases on exhibition are not whole, but are put together from many pieces, and have much of their surface restored with clay of a different color. Some fortunate few vases are found intact, but many are unearthed in fragments into which they have been shattered whether by purpose or by accident. Sometimes

East by a careful comparison of the thickness and texture of the clay,
Room and by study of the design, by painstaking fitting together of pieces, a large vase can be built up into something approximating its original condition. Case IX is filled with many fragments of pottery, chiefly Attic black-figured ware, some of them partially fitted together. Examination of this case will reveal much about the difficulties which beset the path of the vase mender.

In this case will be found also fragmentary specimens of a very interesting sort of black-figured ware—namely, the work of the Kleinmeister or masters of the miniature as they should be called. They worked on kylikes, or drinking cups, decorating them with minute figures of animals and men and satyrs, done with precision and considerable charm.

The third technique, that of white ground vases, shows line drawing on the ground of a white slip with which the vase is covered. This technique is seen on three vases in case XIII (Nos. 79, 84, 128). These vases of tall slender shape were used exclusively as offerings to the dead, and are called *lekythoi*. As befits their purposed use, they are decorated with scenes connected with the cult of the dead—scenes of offerings at tombs, the preparation of such offerings or the laying out of the dead.

ITALIAN FABRICS

After the destruction of the Athenian Empire at the hands of Sparta, Athens lost control of the potter's trade. Some of it went to the north, where, on the shores of the Black Sea, particularly at or about Kertch in the Crimea, a large industry in polychrome vases sprang up (case IX, No. 131). Most of the trade was shifted to the west, to Italy. Wares made in the west were never so artistic as those made in Hellas. The potters were given to fantastic shapes (case XIII, No. 95), and the decorations, when not crude, lost themselves in a welter of detail and elaboration (case XIII, No. 94). As the Romans conquered Magna Graecia, painted ware disappeared and was replaced, as has been said, by molded or stamped pottery, which was easier to make and could be produced in great quantities.

*East
Room*

LAMPS

CASES XIV AND XVI.

The Romans were fond of molding clay. They made plaques and pendants of clay (case XVI, Nos. 51-60) and they used clay as well as bronze for lamps (case XIV). Lamp making must have been an important part or branch of the potter's craft. Many of the lamps have upon them the maker's name stamped, and for some the molds still exist. The earliest form of lamp is open. When made of clay, it is a simple saucer, with the edge pinched into a lip to support the wick (No. 2, which comes from Cyprus). This open form is said to be Semitic in origin and development. Later and normally the lamp is covered, except for a small air hole, and the top, added by non-Semitic peoples, comes to be decorated at first with linear ornament, later with figures, such as a running warrior (No. 31) or a chariot (No. 33) and various animals, or figures of gods—Jupiter with the eagle (No. 7), Eros (No. 9), Hercules (No. 34), Venus (No. 35) or erotic scenes such as Leda and the swan (Nos. 15, 16). The forms of the lamps are sometimes curious—No. 36 is molded in the shape of a bull's head; No. 12 is a crude "candelabrum;" No. 49 required a wick not much thicker than a thread. Irrespective of the size, a lamp may have several nozzles (No. 13 has nine). By the shape of the nozzle, volute (No. 25), grooved (No. 47), plain (No. 10), heart shaped (No. 34), it is possible to date lamps made within the imperial period. Lamps called "delphiniform" (No. 14) are of the first century B. C.

THE ITALIC COLLECTION

THE ETRUSCANS

*East
Room* The Italic Collection comprises pottery, bronzes, terra cottas and jewelry. It is far the largest collection in the Mediterranean Section, and, historically and archaeologically, one of the most valuable in the Museum. The collection is almost entirely Etruscan; and a complete detailed study of it, were such possible, should yield considerable material for the student of the history of that strange people in Etruria, long the mortal enemies of the Romans.

The Etruscans seem to have been immigrants from the nearer East, possibly from Lydia, for they show many affinities with the peoples of central Asia Minor. When they settled in Italy we do not know, but it was possibly about 1000 B. C., for at that time there was much unrest and migration among the peoples around the Mediterranean. Before the sixth century B. C., they controlled all Italy southward from the Alps through Latium and Campania. They may even have founded Rome. Certainly at one time they dominated the city, and Rome under the Tarquins was a far more influential community than it was in the early republic. Whether or not they founded the city, they left marked impress on the arts, religion and governmental forms of Rome. Of their history we know little, except that at certain times they came into alliance with the Carthaginians, the great traders of the Western Mediterranean, or into conflict with the Greeks in South Italy and Sicily, and later with the Romans. Their domination over the early Romans was naturally glossed over later by the zealous republican patriots, but the fact of their hold remains. Their power was broken not by a Roman consul, but by a Sicilian tyrant, Hiero of Syracuse, who, in 474 B. C., defeated the Etruscan fleet in a mighty sea battle off Cumae. Nearly a century later, in 396 B. C., the fall of Veii to the Romans destroyed the independence of the Etruscans, whose cities long thereafter prospered and flourished, though subject to Rome.

The Etruscans were preëminently warriors. To them the arts of peace were of secondary interest. Such commerce as they engaged in was due to the aggressive efforts of others, and was limited to the selling in the home markets of raw metals and the fruits of the earth.

They had no native genius for art, but, like the Phoenicians, they were skilful copyists of things foreign, which they appropriated to their own use, often brutalizing them in the process. This statement will be emphasized by a survey of the Etruscan collection.

The jewelry and some of the bronzes will be found in the room to the right of the stairs, cases VI and X respectively; the rest of the bronzes, the pottery and terra cottas in the room to the left of the stairs. At the time of this writing, the sarcophagi and cinerary urns in the form of sarcophagi are not on exhibition.

BUCCHERO

CASE XVII.

Case XVII is filled with pottery of the kind known as bucchero, which is a ware distinctively but not exclusively Etruscan, manufactured mostly at Clusium (the modern Chiusi). The clay of which it is made is blackened either by the admixture of charcoal or by a slow fumigation in the furnace, and then polished with wax or resin. When the firing is imperfect, a grayish color results (No. 27). The manufacture of this ware begins in the sixth century B. C., and continues for at least two centuries, without showing any perceptible development or change in style. Specimens can, therefore, be dated only approximately by the date of objects with which they were found, notably Greek vases. The shapes are heavy copies of Greek kantharoi, oenochorae, amphorae, etc., and their chief characteristic is the obvious effort to imitate metal work. This is seen not only in the details of the construction (note especially the handles on No. 5) but also in the decoration. The method employed in the decoration forms a basis for a classification of the ware, which is purely stylistic, not chronological:

- (1) Undecorated (No. 12).
- (2) Incised (No. 11).
- (3) Stamped relief (No. 4). (No. 26 combines 2 and 3.)
- (4) Molded relief (No. 17).

All four classes are coexistent, but the fourth class is the commonest. The decorative forms are distinctly not Italian, but are either oriental: sphinxes (No. 7), lions (No. 29); or Egyptian: lotus ornament (No. 16), head with Egyptian head dress (No. 21). An Egyptian or Asiatic decorative motive used on a Greek shape—this is an epitome of the hybrid art of Etruscan pottery.

One of the most curious objects in this ware is a brazier (No. 30) used to hold coals either for heating a room or for cooking food. In the houses of the wealthy, such objects were usually made of bronze. Whether of bronze or clay, they are found frequently with household utensils. Beside this brazier is displayed a small bowl and a "palette," which with several other objects were found inside it.

More bucchero ware will be found scattered through the tomb groups in cases XVIII, XXII, XXIII and XXIX.

TOMB GROUPS

The rest of the pottery is almost entirely from what are termed "tomb groups." That is, the vases and pots were found in lots in tombs of various sorts, buried with the body of the deceased. Their importance lies not in the individual specimens, which in themselves are of interest only to the enthusiastic student of ceramics, but in the information which can be deduced from the groups. The custom was to deposit with the corpse pieces of pottery of various shapes and sizes. Sometimes when incineration is practiced, a large clay vessel was used to house the bones of the deceased (see Nos. 159, 160, 166, in case XXIX, in which bones may still be seen). It is natural to assume that the pottery so deposited is of the sort which is being manufactured and used at the time of the burial. If, then, we compare the pottery from any given tomb with that from another, studying the styles, we can deduce the relation of the one to the other. That is, we can determine which is the older and which the later; we can frequently approximate the date of manufacture, and so can date the tomb from which the pottery comes. If we find in the same tomb, pottery of different ages, we may safely assume that the tomb was used more than once for burial. This utilizing of a tomb already in use is called "intrusive burial." It is not uncommon, and it explains why in the same tomb may be found vases and other objects varying in date more than a century. That heirlooms might have been deposited with the dead is not likely.

TYPES OF ITALIC TOMB

Most of the tombs from which these tomb groups have been removed date from the seventh century or earlier. The placards in the cases mention three types of tomb: well tombs (*tombe a pozzo*), trench tombs (*tombe a fossa*), and chamber tombs (*tombe*

a camera). The first and second are nearly contemporary, and are very early; the third is later and more elaborate. It is the sort of tomb in which were found the famous Etruscan mural paintings.

The earliest tombs yield pre-Etruscan remains, deposits made by the people who lived in central Italy before the invasion of the Etruscans. To these people of non-Etruscan stock we apply the general term *Italic*, and we call their early civilization the Villanuova period in Italy, because at a site called Villanuova near Bologna were first distinguished the marks of that stage of the world's development. It is a period of about two hundred years, beginning with the ninth century B. C., and it forms the transition from the Neolithic Age (1500-900 B. C.) to the Iron Age, or the beginning of the historical period, when Greek intercourse was first felt in the west in the late eighth century B. C.

The tomb groups may include other things than pottery. In the tomb groups exhibited in the University Museum the additional objects are chiefly of bronze armor, vessels of one kind or another, whole or in fragments, horse trappings, toilet articles, razors, tweezers, combs, etc., and even jewelry: bracelets, pendants, fibulae (singular *fibula*, which is the ancient safety pin), bullae (singular *bullula*, which is an ornament worn to avert the evil eye). It has been found expedient to separate the pottery from the other objects. The pottery will be seen in the tall show cases, and the bronzes in the low free standing cases in the alcoves. A placard in these latter cases gives the number of the group of pottery with which any given group of bronzes was found.

TYPICAL SHAPES IN POTTERY

CASE XVIII.

In the pottery of these tomb groups three recurrent forms cannot escape notice:

(1) A round bowl generally curving inward at the top to a short neck with a spreading lip, made of red clay, generally unpainted and frequently ribbed, resting on a relatively tall stand with a peculiar profile. The stand appears as if made of three superimposed jars. Like the vase, the carrier is not always painted; it is sometimes vertically ribbed, and frequently pierced with irregular cuts, ranged in tiers. Occasionally, there are plastic additions, human figures or knobs. Large specimens of this form of pottery are shown in case XXXVI. Their use is unknown.

(2) A form characteristic of this early pre-Etruscan period and frequently called the typical Villanuova shape. It has a long wide neck rising from a bowl-like body, with two handles at the widest diameter. It is a cinerary urn.

(3) This also is a cinerary urn. A bowl with a cover in the form of a second bowl, frequently of a different color.

Beside these typical vase forms, certain other objects here are of casual interest. In case XVIII, group 35, is a small cup labeled D. This is a proto-Corinthian skyphos, such as was made in the seventh century B. C. Its presence in this tomb group (35) dates the other objects as approximately of the same century. Group 36 comprises very small vases, probably toys, and appropriately comes from the tomb of a little girl. Group 57 in case XIX, which comes from the same tomb as group 37 in case XVIII, gives us typical information of the sort that can be deduced from these tomb groups, and that is so valuable for reconstructing the history of lost civilizations. Among the many ornaments from this tomb, some of which are of gilded bronze, are two fayence figurines, one a dog (N), one a duck (O). These could have been made only in Egypt, and must have been imported from thence into Italy. That is, as early as the eighth century B. C., for that is the date conservatively assigned to this tomb, there was a considerable commerce between Italy and Egypt. Group 58 (E and D) testify to the continuance of this trade in ornaments a century later.

TOMB OF A WARRIOR

CASE XX.

In case XX is displayed a helmet (64) made of hammered bronze, from a grave, sometimes called "the tomb of a warrior" at Narce in Etruria. Two similar helmets are known, one in the Museum at Corneto in Italy, on the site of the ancient city of Tarquinii, and one in the Metropolitan Museum in New York. The helmet has a high triangular crest, ornamented with parallel lines and bosses. The casque itself is decorated in the same way, and has three projecting rods of bronze at front and back.

The owner of the helmet had also a coarse pottery canteen (72 B) with a groove running along the side to accommodate a cord by which the water flask might be suspended from the shoulder of the warrior. Additional equipment might consist of a bronze girdle, and throwing spears, such as are in case XXV, No. 125.

MISCELLANEOUS POTTERY AND BRONZES

CASE XXII.

In case XXII is a curious group of pottery, said to have been found at Todi in Umbria. It consists of clay representations of an oenochoe with slender neck and pointed beak, a fish, an eel, a bean pod, a chicken prepared for broiling, a cake, grapes, etc.; eighteen pieces in all, deposited on a low terra cotta tray. The group is unique, and accordingly hard to date except within wide limits (second century B. C. to first century A. D.). It seems to have been an *ex voto*, a sort of everlasting *prandium*, deposited in the tomb for the delectation of the dead. With it is to be compared a similar group in the Egyptian Section, case 27.

East
Room

Next this group is a crude red pot (No. 102), of interest only because it has on its side an incised inscription in Etruscan letters. The Etruscan language is still undeciphered, so the meaning of this and other inscriptions is a mystery.

CASE XXV.

A large number of bronze figurines of gods, men and animals (No. 126-147), extending over several centuries, is shown in case XXV. The earliest date from the sixth century (No. 134) or earlier, and the latest (No. 146), a caricature of a Roman comic actor, may be dated as late as the first century A. D.

This same case contains a curious glazed jar (No. 148), a duplicate of which is to be seen in the Museo della Villa Giulia in Rome. The green glaze, the quality of the clay and the decoration show Egyptian influence, but the fact that the hieroglyphs are meaningless indicates that the vase may be of Phœnician manufacture. The Phœnicians were the great traders of the ancient world, and were notorious for their cheap imitations of Egyptian articles. Things Egyptian were then in great demand, and wherever the unknowing would accept a substitute, the Phœnician palmed off his own product at no small profit to himself.

CASES XXIV-XXVI.

These cases contain more bronze ornaments and fragments from Italic tombs. One of the most interesting of these is (No. 151 G, case XXVI) an Etruscan bronze fan. The fan is thin and flexible, and is decorated with rows of repoussé dots. The handle was riveted in place. In appearance the fan is not unlike a modern "fly swatter."

CINERARY URNS

CASE XXIX.

East Room This case is largely devoted to cinerary urns. One of especial interest is No. 161, which was found at Albano in Latium. It is in the shape of a round hut with a thatched roof and a single door, held in place originally with a wooden bolt. This last abode of the dead is made in imitation of the dwellings of those living at that time and is important to us to show the origin of such historical round buildings in Rome as the temple of Vesta. The cult of Vesta was one of the oldest in Rome, and the dwelling of the never dying hearth fire kept through the ages the form of the primitive house where the worship of the hearth goddess first developed.

FIGURINES

CASES XXVII AND XXVIII.

These cases, which stand against the wall between the windows, contain Greek and Italic figurines, mostly from the Greek colony of Tarentum in South Italy. The Tarantine figurines were made throughout the third century B. C., and are easily distinguished from the Italic, which are coarser. The subjects are genre (Nos. 41, 42) rather than mythological, although No. 25 is a head of Herakles and No. 37 is an Eros and No. 39 may represent Aphrodite with Eros. Other figurines will be found in the room to the left of the stairs in alcove D, case V.

ARCHITECTURAL ORNAMENTS

CASES XXX AND XXXIV.

These cases are devoted to architectural ornaments of terra cotta from Etruscan temples in Cervetri, Corneto and Orvieto. They are chiefly antefixes, in the form of male or female heads, sometimes framed in a "shell" (Nos. 252, 253, 261, etc.). The collection includes also waterspouts in the form of lion heads (Nos. 257, 266), and fragments of revetments (No. 265), used to conceal unsightly pieces of structural work. Fragments of an Etruscan openwork grill and a photograph of a reconstruction of it are displayed in case XVI.

MISCELLANEOUS BRONZES AND IVORIES

CASE XXXI.

In this case are a number of bronzes, among which perhaps the most interesting are the mirrors. These are round disks, decorated on one side with scenes from mythology or daily life, and polished on the other side so as to give a reflection. St. Paul's words as recorded in the King James version of the Bible, I Cor. xiii, 12, "Now we see through a glass darkly," take on additional significance as we look at these ancient mirrors. They are of two sorts: (1) A disk with a tang, which originally fitted into a wooden handle. Such a disk would be incised on the back, as for instance No. 167, which shows the purification of Orestes at Delphi. The story goes that after slaying his mother, Clytemnestra, in revenge for the murder of his father, Agamemnon, Orestes, pursued by Furies, fled to the oracle of Apollo. The mirror shows him embracing the omphalos, the reputed center of the earth, while Apollo, despite the interference of the Furies, holds over the suppliant's head a pig, the symbol of purification. (2) The polished disk might be inserted in a case, the lid of which would be highly ornamented. No. 173 is such a mirror case, its cover decorated with the figure of a dancing Maenad in high relief. Inside the case in high relief is the figure of an Eros warming his hands at a fire.

East
Room

CASE XXXII.

This case contains some of the most interesting of the bronzes. No. 203 is a vase of undetermined date (900-500 B. C.). The beauty of its form is enhanced by the patina of delicate turquoise color. Beside it is a small candelabrum (No. 204), probably of the fourth century B. C. It has three feet in the form of sea horses, supporting a pedestal on which stands a nude figure of Aphrodite, with a mirror in her left hand. From her head rises the stem of the candelabrum, up which runs a tiny fox, stalking a dove which is perched under the basinlike top. The top is square, with a round depression in the middle. Doves rest on its four corners. Nos. 205-208 are tomb furniture. No. 206 is a bronze *focolare* or brazier, a sacrificial tray for sacred fire, containing four small bronze vessels. Nos. 205, 207, 208, are respectively a chair, a table and an urn from the tomb of a child at Chiusi, dating probably from the early fifth century B. C. The urn held the ashes of the dead, and

East originally was placed on the chair which stood before the table.
Room The table itself had been covered with food offerings, some of which still remained on it when the furniture was found.

CASE XXXIII.

This case contains a miscellaneous lot of bronze and ivory utensils from Etruria.

No. 209 is a pair of flesh hooks, used either in sacrifice or in ordinary cooking to hold flesh over the coals.

No. 210 is a bronze ring, within which is placed a fragment of an Attic black-figured hydria, or water jar, on which is represented a similar object. The ring seems to have been used as a means of preserving the equilibrium of men while treading out grapes in a vat—cf. Cato's *orbis aheneus*. Its appearance on the vase fragment is to be explained on the ground of its being a votive offering to Dionysos, god of wine.

No. 211 is a group of three bronze strigils, or scrapers, used by the ancients to scrape from the skin grime and perspiration. Lysippus, the Greek sculptor of the fourth century B. C., made a famous statue called the *Apoxyomenos*, representing an athlete with such a strigil removing from his arm the dust of the palaestra. A copy of this statue is preserved in the Vatican Museum in Rome.

No. 214 is a peculiar object consisting of two rings extending laterally from a base out of which rise three vertical spines. It has generally been called a "bow puller." It may have been used to adorn the headstall of a horse, and would, because of its horns, have been a potent safeguard against magic or any blight. Even today in Italy the horn is the greatest of prophylactics.

No. 220 is a group of miscellaneous ivory objects, including some styli, used by the ancients to write on wax tablets.

No. 221 is a group of horseshoe-shaped objects with teeth and a large hole in the center, used as cheek pieces for the bits of horses.

ANCIENT ROMAN GLASS

The University Museum is fortunate in possessing a very good collection of ancient Roman glass. The term "Roman" is here used vaguely to cover glass made in the Mediterranean during the period of Roman ascendancy. Not all the glass included in the collection was made by Romans. Some of it goes back at least to the fifth century B. C., and very little of it was found in Italy. But the epithet "Roman" is conventional and is less general than "ancient" alone.

West
Room

The ancients employed glass for many purposes, notably for jewelry. Glass beads, especially of the "eye" variety (case VII, No. 22) were in high favor, and pendants in the form of seals (case XIV, No. 65), imitations of scarabs and intaglios (case XIII, No. 16) and also bracelets of glass (case XV, No. 141) are found frequently. Bracelets of glass are worn by peasants in Egypt even today. But the use of glass for personal adornment is only one of many uses. Of glass were made containers of toilet preparations, also tableware and ornamental vases. In this latter capacity glass was sometimes manipulated so as to look like precious stone—e. g., the Portland vase in the British Museum. Sometimes, too, it was used to make toy vases (case XIV, No. 54). Glass was popular for many reasons. It could, on the one hand, be made to sell very cheap, and the low cost probably accounts for our finding in tombs such quantities of small glass objects. It could, on the other hand, by complication of process, be made so as to vie in value with gold. Individual specimens of one variety of Roman glass, *Vasa Murrina*, were known to fetch at sale the equivalent of \$1,000. Indeed, the story goes that Petronius, the *arbiter elegantiarum* of Nero's day, the hero of Sienkiewicz' novel *Quo Vadis*, paid a sum equal to \$10,000 for a vase of glass which he afterward deliberately shattered in order to prevent its passing into the possession of the covetous emperor. Pliny, who tells this story, adds the interesting statement that Nero had the fragments gathered up and preserved—an indication that the Romans, as well as modern collectors, frequently had to be satisfied with broken bits of valuable glass.

To us Roman glass has a charm unknown to its makers, added fortuitously to the vases in the lapse of ages by the chemical action

West of the earth in which it has lain buried. That charm is its irides-
Room cence. Not all ancient glass shows this characteristic, the color of
which the Venetians and modern glass makers, notably Tiffany,
have sought to imitate. Specimens that have been found in Egypt
(case XIV, No. 22, or in the cases in the Egyptian Section) will be
seen to be transparent, artificially colored—amber, pale blue, or
green—and, except for a slight local discoloration or cloudiness, are
practically as they were when first in use. This perfection of preser-
vation is due to the exceptional dryness of the sands of Egypt, which
preserve intact all things buried in them, except the most perishable.
On the other hand, such specimens of Roman glass as have been
recovered from Palestine after being buried in a damp soil, have
often been covered with a brittle coat, *e. g.*, No. 94 in case XII,
which flakes off, revealing below a surface of brilliant iridescence.
This phenomenon is due to decomposition of the glass, induced by
chemical agents in the earth. The Romans could never have seen
glass glorified by these shifting, fiery colors. The colors are modified
in brilliance by the intensity of the light to which the glass is exposed.
Iridescence shows on transparent glass of all colors, and varies in
degree from a creamy white (case XI, No. 99) or a pearly pink (case
XIV, No. 56) or pale opal tones (case XIII, No. 19) to a fiery (case
XII, No. 73) or peacock iridescence (case XII, No. 69, or XI, No-
73). Particularly beautiful are those glasses which have a lavender
(case XI, No. 92, or XII, No. 78) or mulberry (case XIII, No. 13)
or amber basis (case XII, No. 87).

The first experiments in glass making were due to the efforts
not of the Phœnicians, as Pliny says, but of the Egyptians. As
early as the fourth millennium B. C., the Egyptians were using a
vitreous glaze on beads and other objects, but no glass worked by
itself, without a base of pottery or stone can be dated earlier than 1600
B. C. Later the early glass was molded. The industry later was
expanded beyond the borders of Egypt. Sidon in Phœnicia had
world renowned factories, and the industry spread through Syria
and Judea. We shall have occasion later to speak of Jewish glass,
a peculiar local fabric of the fourth century A. D. But the perfection
of the art of glass making was attained by the Romans, who, in the
second or first century B. C., invented the blowing tube, which
revolutionized the industry. After that invention shapes are more
delicate in construction and not only are the vases blown, but some-
times they are blown in a mold, and so have the additional charm
of formal pattern decoration.

Development in technique is, however, the sole contribution of the Romans to the industry. The racial lack of creative artistic sense was a great handicap to the production of beautiful forms. On the whole, the shapes found in Roman glass are not pleasing, especially when the vases have handles. In almost every instance handles are heavy (case XIV, No. 6) and awkward, joined to the vase in a crude fashion that bespeaks no architectonic sense. By the addition of handles many otherwise beautiful shapes are marred (case XIII, No. 6). On the other hand, real beauty of line and proportion may be found in some bowls and goblets without plastic additions, except superimposed threads (case XIII, No. 13 or No. 48), and in many long necked flasks (case XII, No. 87).

Most of the glass in the Mediterranean Section has come from tombs in Palestine; a few pieces are from Egypt; and many fragments come from Italy. The shapes are such as would be suitable for depositing with the dead—toilet jars and flasks, beads, bracelets, pendants, cups and goblets set out with food for the satisfaction of the dead. Perhaps the commonest shape is a slender tubular flask, generally double, sometimes single or even quadruple, with or without carrying handles, and ordinarily ornamented with threads wound round and round the body. These are sometimes erroneously called "tear bottles," from the fanciful idea that they were used to catch and store the tears of the mourners for the deceased. They are generally termed *balsamaria*, and were used to hold perfumes and fragrant oils. They seem to date generally from the fourth century of the Christian era.

It is difficult to set the glass within the limits of a definite chronology. Some of the pieces are obviously early, because they are primitive in technique. Some are late, and are datable by certain peculiarities. But the bulk of the vases cannot be assigned to any definite period.

In making glass vases three methods were successively followed: modeling over a core, molding and blowing. The oldest specimens are the so-called "primitives." These were made by modeling the glass on a core, which afterward was carefully removed. The desired shape was decorated with threads of glass of various colors, laid over the vase while it was still hot, and then the whole was rolled on a stone until the threads were pressed into the wall of the glass and all made smooth. Before the vase was rolled, the threads could be dragged with a comb-like instrument, so as to make wave patterns. A number of specimens of this archaic technique will be found in

West case XVI, Nos. 142-145, and two more in case XIV, No. 38. Vases
Room of this sort seem first to have been made in Egypt.

Of molded glass the Museum possesses several varieties.

(1) Sidonian jugs. These are a product of Phoenicia, beginning in the Hellenistic Age. They were made variously of opaque or transparent glass and are quite small. Frequently they are hexagonal in body, each face constituting a panel, and being covered with some outstanding design of fruits, birds, flowers, wine jars and other Dionysiac symbols (case XIII, No. 10).

(2) Jewish glass. This was made in Palestine in the fourth century A. D. It takes most commonly the form of a jug with a neck almost as long as the height of the body, and a broad spreading lip. The body is hexagonal, and decorated with such mystic symbols as palm branches, the "temple door," etc. (case XI, No. 82).

(3) So-called Medusa flasks, with or without handles, having a body in the form of double or Janiform human head (case XIII, No. 8).

(4) Fruitiform bottles, shaped and colored like dates (case XV, No. 134) or clusters of grapes (case XVI, No. 146).

(5) Conventional shapes, of which perhaps the handsomest is the violet colored hexagonal bottle (case XII, No. 78).

When the blowing tube came into use, the mold was not wholly abandoned, but its use was modified. Originally the mold was in two pieces. The glass set in each half was taken out while it was still warm, and its edges were fastened together. Sometimes the joint is still visible (case XIII, No. 32). But later the blowing tube was used to force the glass into a complete mold, which was later removed in sections (case XIII, No. 41). Plastic effects were sometimes obtained without the use of a mold by pinching the warm glass so as to give a spiked appearance (case XII, No. 95), or by holding a wooden tool against the sides of the bubble to make grooves in them (case XIII, No. 2, or XVI, No. 147).

Mosaic glass, which was very precious to the Romans, is represented in the Museum Collection only by fragments, almost all of which seem to have been collected in Italy. For the most part they are displayed in case IX, but one remarkable piece is in case XII, No. 90. This is the finest piece of mosaic glass in the Museum, and is fully described in the *Museum Journal*, IV, 1913, pp. 137-8, and Fig. 124. Vases of this technique are elaborate in construction. Threads of glass of many colors are combined in many ways so that cross-sections of the threads will produce a variety of patterns,





AN ATTIC GRAVE STELE
IV CENTURY B. C.

which could be further modified by the angle of the cutting or by dragging, or, again, the fused threads could be cut in longitudinal sections. In any event, the sections, whether horizontal or longitudinal, were placed in a mold in such a way as to form a desired pattern, and they were joined together by heat (case IX, No. 103) or by a bubble of colorless glass blown inside the mold and over the thread sections (case IX, No. 100). A third way of fusing the sections would be by heating a mass of superimposed threads and blowing the whole into a desired shape. Thus were made the onyx vases (case IX, No. 101; case XII, No. 96).

Many of the blown vases are remarkable for lines of grace and for beauty of color, apart from the iridescence (case XIV, No. 5). Some of them combine two colors, a pale tone in the body and a darker one on handles and rim (case XVI, No. 173; case XV, No. 140). Many blown vases are decorated with threads of glass applied plastically, a form of decoration inspired by a desire to imitate the cords about the neck of a flask to fasten the sealing. When this sort of decoration is confined to long necked flasks (case XIII, No. 7) it is quite effective, but it is not always so successful (case XIII, No. 55).

GREEK AND ROMAN SCULPTURE

West Room The collection of sculpture includes Greek originals, Roman reliefs and Roman copies of Greek originals, and Roman portrait heads. There are in addition a few plaster casts.

The Greek marbles include a head of Athena (No. 21) of the second century B. C., less interesting for its workmanship than for the fact that it is carved from Pentelic marble, the stone of which the Parthenon was built, and that it shows how this stone through exposure takes on a golden brown tone. A second head (No. 22), the so-called Menander, is interesting as an example of that class of portrait heads known as "ideal" heads. A fragmentary relief (No. 18) affords a very satisfactory idea of the over refined and somewhat affected decoration which in the Graeco-Roman age sprang from uninspired copying of the work of earlier ages.

The Museum owns two fairly complete Attic grave stelae (Nos. 49 and 53). Such reliefs were set up over the graves of the dead in token of grief and affection. They are noted for their dignity, sincerity and restraint. They represent the deceased in some homely, familiar act, frequently, as on these two monuments, seated in the midst of the family. The large stone (No. 53) is particularly good, showing the deceased, Krinia by name, as the inscription tells, seated, clasping in farewell the hand of her husband. In the background between these two is another man, the lady's father-in-law.

Of the Roman reliefs, No. 48, with the masks of a satyr and a maenad, is interesting for having come by repute from the villa of the great Marius at Tivoli. The relief (No. 34) showing the triumph of Dionysos is chiefly of interest to the student of the history of art as showing the low water mark of Roman art. The overcrowding of symbolism connected with the Dionysiac mysteries, the woodenness of the figures, the meaningless swirls of drapery, the uninspired copying of Hellenistic motives—all this is bad even when it is considered as mere stone cutting. Yet many Roman sarcophagi are of great artistic merit.

The most interesting Roman relief is No. 20. It was part of a monument set up in Puteoli to honor one of the Cæsars. From the finish of the marble on the left of the slab it is obvious that another slab was originally joined on that side. In the Museum at Berlin is a slab similar in style to this, so worked that it might well be joined to this on the right side. Therefore, there must have been at least three slabs to complete the design, the whole forming perhaps a balustrade.

Of the marbles which may go back to Greek originals, No. 29, which is modeled after the type of the Niké of Samothrace, is perhaps the best example. The faun (No. 26) and the Hermes (No. 45) may also be mentioned as well as the seated Dionysos with the lion (No. 36), which at one time seems to have served as a fountain, for two pipe holes run through the back of the lion's head, emptying through his mouth.

The Roman portrait heads are of a pleasing variety and interest. Portraiture is the one branch of plastic art in which the Romans excelled. The most charming of the specimens in the University Museum is No. 14, the portrait of a middle-aged Roman lady of about the time of Marcus Aurelius. The date is deduced from the dressing of the hair in a fashion prevalent at the end of the first century or the beginning of the second century A. D. No. 16 is perhaps a century earlier, more nearly contemporary with the head of a Roman boy (No. 30). No. 28 is supposed to be the portrait of an unknown Roman emperor.

Other examples of Roman sculpture are the mask of a river god (No. 50), a number of statuettes, two of which (Nos. 17 and 29) had the head and arms inset in a different sort of stone, and five marble urns, each inscribed, CHIO D. D., *Chio donum dedit*, "Chio gave as a gift." Of these, No. 35, showing a winged horse fighting a griffin, is the most notable.

Of the casts, two are especially worthy of notice (Nos. 41 and 42). These are copies of two of the so-called Acropolis maidens, dedicatory statues set up perhaps to Athena in the sixth century B. C. on the Acropolis at Athens. They were overturned and broken at the time of the Persian sack of the Acropolis in 480 B. C. Then when the Athenians came back to rebuild their citadel, they made ready to set up new buildings by leveling off the ruins of the old, taking no heed of what might be buried, and so the débris of the Persian sack came to shelter many specimens of early sculpture, pottery, etc. The chief interest of these "maidens" is their revelation of the detailed style of that early Attic sculpture, made when Ionic influence was strong in Attica. These reproductions are, it is to be noted, colored. All Greek sculpture was similarly colored. The nude parts of statues were treated with a preparation to make them appear like flesh; hair, eyes and also accessories were painted. Cold white marble sculpture was unknown to the Greeks. It would have seemed unfinished, monstrous. Even the sculpture of their temples was picked out in colors.

ÆGEAN FRESCO PAINTINGS

*West
Room* The Ægeans made one very important contribution to the development of technique in art in their invention of fresco painting. Their houses were built of rubble and stone, plastered inside and outside for protection against the weather. The plaster used inside was soon displaced by stucco, and this stucco was decorated with simple colors. The earliest colors seem to have been red, yellow and black. Green and blue were imported from Egypt; the first real green is found at Tiryns. The colors were laid directly on the wet stucco, a process which must have demanded great rapidity on the part of the artist, and which undoubtedly accounts for the sketchy appearance of some of the paintings. The earliest form of wall decoration must have been simple lines of color on the painted surface of the wall. This sort of decoration would soon develop friezes or dados of solid color upon which various objects and scenes would be painted, the colors of the figures being superimposed on the color of the dado. All the reproductions of frescoes from Knossos show figures painted over a ground of at least two colors. Traces of the persistence of the tradition may be seen in the frescoes from Tiryns, where the figures move along the upper edge of an elaborate border or dado.

Reproductions of a number of frescoes from Knossos, Tiryns and elsewhere are hung on the walls at the west end of the room at the right of the main stairs. The originals, which are now in the Museums at Candia and Athens, were painted at different times in the period from 1500 to 1200 B. C., the series showing a decline toward the end.

The paintings from the palace at Knossos represented here were painted about 1500 B. C. Of them, the most famous is the figure of the cup bearer (No. 3), from the wall by the side entrance of the palace. It represents a man, one of a procession, carrying an enormous "filler" vase, of the type represented by the Boxer vase (reproduced in case IV in alcove C. No. 15). The man is nude, except for an elaborately patterned loin cloth. He has an arm band on his upper arm, and on his wrist a seal stone such as Cretan peasants dig up occasionally today and wear as a charm. He has a very pinched waist, apparently a characteristic of this people, and his profile is of especial beauty, quite distinct from the Hellenic type.

A similar procession of pitcher bearers is represented by the two figures in No. 1.

The most interesting fresco is doubtless that of the bull grapplers (No. 2). It shows a bull charging; over his back vaults a youth; before the bull stands a girl with outstretched arms, waiting to grasp the horns of the rushing animal; and behind it a second girl with uplifted hands waits to catch the acrobat as he alights. As in Egyptian painting, the flesh of women is represented as white, while that of men is brown. Bull baiting in Spain in modern times seems to be the last survival of such a prehistoric custom. The picture has an added value in explaining the origin of the Athenian legend of Theseus and the youths and maidens sent to Crete, victims to the Minotaur, the bull of Minos. These young people were, in short, toreadors, recruited by the Cretans from subject nations, and trained to bait and fight the bull until they were killed, just as later in Rome, gladiators were gathered from out the sturdiest of war captives, and sent into the arena to amuse the brutal populace. To the Ægeans the bull seems to have been a sacred animal. It is frequently represented in their art. On the second frieze of the Boxer vase is a bull leaping scene and on the famous Vaphio cups (reproduced in case II, No. 17) is shown the manner of trapping wild bulls. A painted stucco relief of a bull's head from Knossos (No. 6) is one of the most spirited representations of the animal ever made. The bull's head inspired also one of the Ægean vase forms—the rhyton. Two such vases, one of gold from Mycenae and one of steatite with gilded horns from the little palace at Knossos, have been found, restored and reproduced (Nos. 2 and 3 on the walls of alcove C).

The Ægean passion for marine forms is clearly shown in the fish frescoes, one of dolphins (No. 4) from the "Queen's megaron" or apartments at Knossos, and one of flying fish (No. 18) from Phylakopi, on the island of Melos.

Three additional frescoes from Knossos are of especial interest. A costume for women is illustrated in No. 8. No. 7, the miniature fresco, is interesting for its attempt at crowding figures as well as for the hints of Ægean architecture. For technique, No. 5, the so-called portrait of a chieftain, is of especial value. Like the head of the bull, No. 6, the figure is modeled in low relief and then painted.

The rest of the frescoes are from Tiryns, on the mainland of Greece, and are later in date and generally less well done. Some of them show pleasing patterns (Nos. 10, 11, 12), and one (No. 13),

West Room the lady with the jewel box, gives a fairly complete idea of the dress of women of the age. There are several fragmentary groups of figures which seem to have constituted originally a boar hunt. Probably this was the prehistoric prototype of the Calydonian Boar Hunt. We see the hunters with their spears (Nos. 9 and 15), the hound in leash (No. 16), the great lords starting off in their chariot (No. 14) and the "kill" (No. 17).

All these frescoes, no matter what their provenance, seem to have been painted by Cretan artists. Crete was the artistic center, and from Crete went forth artists and craftsmen far and wide to decorate the palaces of the lords of other lands. When the various *Ægean* settlements were destroyed by invaders, in the sack of the palace the plaster naturally was knocked off the walls. Much of it was ground into dust, but here and there by a miracle a bit was saved, buried deep under soft and protecting rubbish. From these bits, unearthed after many centuries, slowly and laboriously scholars build up the lost frescoes. From the size and condition of No. 12 in case IV, a reproduction of a bit of painted plaster just as it was picked up, one may well imagine how this work is done.

ÆGEAN METAL WORK

The Ægeans were cunning workers in metal. Especially the lords of Mycenae, "rich in gold," gathered about them fine specimens of gold and bronze work. Of these many treasures were found buried in tombs which Schliemann uncovered in his search for traces of the Homeric heroes. Reproductions of some of these famous Mycenaean treasures are displayed in cases I and II.

West
Room

CASE I.

The bronze swords and daggers with ornate gold (No. 4) and inset hilts (No. 5), and blades inlaid with gold and silver justify the statement that these craftsmen could not only carve, but could also paint in metal. The dagger (No. 10) showing cats stalking ducks in a thicket of papyrus is especially effective. Scarcely less good is the dagger (No. 12) bearing on its blade on one side a lion hunt and on the other a lion stalking a herd of deer. The swords are long of blade, very long as compared with swords used in classical Greek times. The length is necessitated by the fact that a bronze sword must be used for thrusting like a spear, for the blade will not take a cutting edge. The sword blades, like the dagger blades, are ornamented, generally engraved, some with geometric patterns (No. 3), others with figures of animals, wild asses (No. 2), or griffins (No. 8). This last example is especially interesting as showing the condition in which the blades were found; the other reproductions are also restorations, showing how the weapons looked when new.

A dagger blade from Crete now owned by a private collector in Boston, is reproduced in No. 13. The original was found in the Dictaeon Cave, the legendary birthplace of Zeus. The sides are engraved respectively with a boar hunt and a bull fight.

CASE II.

Other sorts of gold treasure are reproduced in case II. Gold masks (No. 1) were laid over the faces of the dead, and diadems (No. 2) on their heads. In the tombs were found many thin plaques of gold incised with beautiful linear designs of stylized animal and plant forms and spirals. The spiral is an especial development of Ægean art and is its chief legacy to the repertory of design. These

West small plaques may have been used as ornament on the clothing of
Room the dead, or, as Hall in his *Aegean Archaeology* suggests, as ornaments tacked on the outside of the long vanished wooden coffins in which the dead were laid.

The most important objects in the gold treasure of Mycenae are the cups. These are of great beauty both in shape and decoration. The characteristic shape is well represented in No. 10, a broad bowl on a high foot. The decoration is either linear (No. 10) or naturalistic (No. 6), and may be hammered (No. 6) or inlaid (No. 12). Probably the most famous of the Mycenaean cups is reproduced in No. 4, a cup on a high foot. It has two handles, on each of which is perched a dove. In publishing this cup, Schliemann, obsessed with the idea of finding traces of definite Homeric heroes in the tombs discovered at Mycenae, pressed hard on the Homeric analogy of Nestor's cup, but that must have been larger than this, and it had four handles, with two doves on each handle. Notwithstanding, the cup will probably always be known as Nestor's cup.

The popularity of such metal cups and vases was so great that they were imitated in cut stone covered with gilt paint. Reproductions of some of these imitative vases are displayed in case IV in alcove C.

REPRODUCTIONS OF ÆGEAN VASES AND LAMPS

On brackets in alcove C are reproductions of Cretan lamp stands, found at Knossos and dated vaguely in the period from 1700 to 1400 B. C. Two portable lamps of about the same period are reproduced in case IV, one from Crete (No. 10) and the other from Greece (No. 20).

*West
Room*

The most important objects in case IV are the reproductions of stone vases. Among them are three (Nos. 14, 15, 16), the originals of which, now in the Museum at Candia, are made of black steatite. The relief work on these vases was once coated with gilt, so as to imitate metal vases with hammered relief. In this connection it is interesting to compare with these vases a fragment of a metal "filler," decorated with a scene of the siege of an Ægean town (case II, No. 14). The first of these three vases, all of which were found at a site called Hagia Triada in Crete, is the Chieftain Vase, so called from its representation of a commander giving instructions to a lesser officer and three soldiers (No. 14). The cup is noted for the simplicity and charm of its decoration, which, in effect, is not unlike a Greek vase painting of the best period. The second vase (No. 15) is a "filler" with four bands of decoration, scenes of boxing and bull leaping. The third vase (No. 16) is the most famous of the three. It is a fragmentary jar, decorated with a procession of singing men, marching with flails on their shoulders. They wear loin cloths, and follow a leader who is dressed in a great capote and carries a long stick. One of the men shakes a sistrum. The vase is notable for a successful effort at perspective. The skilful way in which three and even four heads are represented one behind another is distinctly superior to the technique of Egyptian reliefs, and makes one think involuntarily of the overlapping heads of the horses on the Parthenon frieze.

One point is always to be borne in mind when studying Ægean art—the Ægeans produced all their art except their mural frescoes on a small scale. So far as we can tell, their skill was limited to vases, statuettes and gem cutting. They did not make large statues nor large reliefs.

REPRODUCTIONS OF OFFERINGS TO THE CRETAN SNAKE GODDESS

*West
Room* Very little is known of the religion of the prehistoric Cretans. Like many primitive peoples, they seem to have worshiped a female deity, the Mother goddess. Their religion seems to have been almost monotheism, for while the Mother goddess had a youthful consort she quite overshadowed him. Her most common attribute is the snake, and for that reason she is often called the snake goddess. In the palace at Knossos she had a shrine, which has been excavated. In this shrine were found a number of small objects, apparently votive offerings. These are reproduced in case III in alcove C. The goddess herself is represented (No. 1) wearing a dress of distinctly modern character, consisting of a fitted skirt and a low cut jacket with tight sleeves. Snakes coil about her body and high headdress. A second figurine (No. 2) represents a votary of the goddess. Among the votive offerings are a cross like the modern Greek cross (No. 6), two dresses (No. 4), and various animals—flying fish (No. 5), a goat (No. 8) and a cow (No. 7) with their young.



HEAD OF MENANDER
III CENTURY B. C.

ANCIENT JEWELRY

The goldsmith's craft is one of the oldest arts in the Mediterranean world. That is to say, it is one which came to perfection in prehistoric times. In Cyprus wonderful gold treasures date back to the fourteenth century B. C.; and the ancient work in gold done in the eighth and seventh centuries B. C. was never surpassed by later products. Ephesus in Asia Minor was a great center for the goldsmiths' industry, and from Asia Minor came the most famous historical makers of jewelry, the Etruscans. Even in antiquity their renown was great. Their technical skill was unrivaled. The Greeks, too, did excellent goldsmith work. Some specimens of ancient jewelry, Etruscan, Greek, and Roman, will be found in case VI.

Greek work, such as the two ducks (No. 6) or the earrings (No. 16), good though it be, is quite overshadowed by the minute and painstaking work of the Etruscans. An amazing amount of skill and patience must have been necessary to produce such detail laden ornaments as No. 7 or No. 15 or No. 23, or such elaborate necklaces as No. 32 or No. 34. The soldering to a surface of minute sections of gold thread—granulation, as it is called—seen, for instance, on the pendants of No. 31, is now a lost art. One of the most interesting pieces is a gold bulla (No. 3), a case for amulets, worn especially about the necks of children. It has on the front a design of two nude youths and on the back palmettes.

Roman work is much less good. One interesting piece is a ring (No. 14) having instead of a seal a nude figure of a child clinging to the band of the ring, and inside an inscription of unknown significance, *Excidio servata meo*, "saved by the destruction of me."

In this same case are displayed a few specimens of gems and intaglios and a few cameos from the Maxwell Sommerville Collection, some of them set in rings. Most of these gems are of the imperial Roman period, but the mountings are modern.

West
Room

MISCELLANEOUS BRONZE OBJECTS

West
Rooms In case X has been arranged a collection of miscellaneous bronze objects, ranging in date from the sixth to the first century B. C. They include shallow bowls, called *paterae* (No. 16), ladles (No. 13) and handles of bronze vessels, selected for good workmanship and beauty of patina. Of these last, several specimens are notable.

No. 2. A foot of a vase in the form of a paw surmounted by a winged sphinx, a good example of combinations of hybrid forms.

No. 9. A pair of handles in the form of birds' heads made of bronze and painted.

No. 21. A hook arrangement, perhaps a handle, showing a dog's head bent over a plaque which is decorated with incised ornament.

No. 25. A remarkable specimen of double handle, together with attachment plaques, which show a head of Herakles between palmettes.

In case VIII are five ancient bronze helmets, two Greek and three Roman. The central helmet has one ear piece restored. Its battered and broken crown indicates that its wearer died in the thick of the fray. Of the Greek helmets, Nos. 1 and 2 are of the so-called Corinthian type which covered all the face; Nos. 4 and 5 are *piloi*, without crest or cheek pieces, the helmet of the common soldiers.

TERRA COTTA AND BRONZE FIGURINES

Of ancient terra cottas in general it has most aptly been said that they are a peculiar phase of minor art, dealing with subjects picked out for amusement's sake. The maker of terra cottas loved the dear common things of every-day life, the head of a child (case XXVIII, No. 42) (East Room), a pig (alcove D, case V, No. 8) (West Room), a child's doll (case XXVIII, No. 47), (East Room). If a terra cotta represents a god, the god has put off his divinity to put on humanity (case XXVIII, No. 37), (East Room). A number of figurines of terra cotta and bronze are displayed in case V, in alcove D, (West Room). Of these several are conspicuous:

*East
and
West
Rooms*

No. 1. A rhyton or drinking horn, ending in the forequarters of a horse.

No. 48. A Tanagra figurine representing a woman playing a double flute. Such figures were made in the late fourth century B. C. Kindred in style is No. 2.

No. 10. A Hellenistic grotesque.

Remarks made earlier on the differentiation of Greek from South Italian terra cottas hold true here. There is a vast amount of difference between No. 23, a head of pure Greek type of workmanship, and Nos. 14 or 18, which are South Italian work of very little later date.

Of the three bronzes here, No. 12 is interesting for the perfection of its preservation.

THE JOHN THOMPSON MORRIS COLLECTION OF COINS AND MEDALS

West
Room

At the present writing, this room contains also four tables of coins and medals—The John Thompson Morris Collection. About one-fourth of the total collection is comprised in a group of Greek and Roman coins. These include good specimens of the chief mintages of Hellas, mostly silver coins. The oldest coin is a silver stater of Croesus, king of Lydia in Asia Minor in the sixth century B. C., whose name is used in the well known proverb, "rich as Croesus." Another old coin is a gold piece of Darius II of Persia (516-495 B. C.).

The Greek coins are the most interesting artistically. The decoration is not fortuitous, but is deliberately symbolic in character. Kings and emperors, *e. g.*, the Diadochi, the successors of Alexander the Great in Syria, Macedonia and Egypt, put on their coins portrait heads. City states use designs that recall some famous local legend; or a type which is a pun on the name of the city, as for instance the rose (*rhodos*) used on the coins of Rhodes. In the case of important cities, the type is frequently so well known that the coin is not always lettered to show the place of issue. Athenian coins show a head of Athena Parthenos and on the obverse an owl, the symbolic bird of the goddess; Corinthian coins show a helmeted head of Athena and on the reverse Pegasus, the winged horse, the symbol of the Corinthian hero Bellerophon. Coins of these two cities were from their types respectively known through the ancient world as "owls" and "pegasi." Almost equally famous were the types of Tarentum in South Italy, showing Taras, the eponymous hero of the city, riding on a dolphin or on a horse; and of Rhodes, with the head of Helios, the sun god, full front on the obverse, and the rose on the reverse. Probably the most beautiful coins ever minted are those of Syracuse showing on the obverse a head of Arethusa, surrounded by swimming dolphins. The type refers, of course, to the famous fountain in the city into which, according to legend, the nymph Arethusa had been metamorphosed as she fled from the embraces of the river god Alpheus. When the Carthaginians were in the ascendancy in Sicily they borrowed the Syracusan type of

Arethusa for the obverse of their coins, but on the reverse they put some essentially Punic type such as the horse standing before a palm tree or the head of a horse—compare Vergil's phrase, *caput acris equi*.

In Rome the coins were less beautifully made. They are almost always lettered. The Janus head is a frequent type, so also is the head of Roma; but generally Roman coins are patterned after the imperial coins of the East, and show heads of political heroes, *e. g.*, Mark Antony, Brutus, etc., and later, heads of the emperors. The head in profile was early discovered to be the most satisfactory sort of decoration for the face of a coin, and for that reason still persists as the most acceptable form of decoration. The Roman coins extend in time down through the Holy Roman Empire as late as the fifteenth century, and include a coin of Charlemagne and several of the issues of the Crusaders.

West
Room

ANCIENT ROMAN MOSAICS

*Entrance
to
Rotunda* Greeks as well as Egyptians knew the art of decorating walls and especially pavements with bits of stone, terra cotta and colored glass paste, embedded in patterns in cement. The art of mosaic work probably originated in the East, and from there passed to Egypt, which in the time of the Ptolemies taught the art to the Romans. A brief description of the Roman process of setting a mosaic pavement is printed in the *Museum Journal*, VII, 1916, p. 26. The first mosaic pavement in Rome seems to have been laid about 150 B. C. in the temple of Jupiter on the Capitol. The art became popular all over Italy in the first century B. C. Beautiful specimens dating from this time have been found at Pompeii, and from Rome comes a small piece of mosaic work of the same age, a very life-like duck, now in the University Museum (No. 44).

From Italy the art spread to the provinces, where fine examples have been found, especially in North Africa. After the Third Punic War, the Romans, in 146 B. C., razed the city of Carthage and cursed the site, so that for long the place was uninhabited. But Julius Cæsar a century later founded at the site of Phœnician Carthage a Roman colony which flourished through the Empire until it fell before the Vandals in 439 B. C. In the ruins of this wealthy Roman colony of Carthage many choice mosaics have been found. Many of them are of what the Romans called *opus vermiculatum*, i. e., mosaics laid in cubes more or less regular in shape, set to give a pictorial effect. Fragments of two such mosaics, preserved sufficiently to be considered units, are fastened to the walls in the vestibule to the Charles Custis Harrison Hall. One of them (No. 51) shows two men sailing in an open boat. Along the left side is twice inscribed VINCLVSVS—perhaps VINC(IMUS)LVSUS, "we win our games," or VINC(TOR for VICTOR)LVSUS, "the winner of a game." This pavement is dated in the first century A. D. The second mosaic (No. 52) is somewhat later in date and less pictorial than decorative. It represents perhaps one-fourth of an ancient pavement, whose stones are laid in a pattern of rectangles filled with conventionalized floral motives—a sort of rug pattern.

The remainder of the mosaics (Nos. 43 and 46) are later in date and are more conventional in design. The first is a checkerboard design, interesting as being in *opus alexandrinum*, the fashion of marquetry in red and green porphyry, invented and developed at Alexandria, perhaps in the time of the Roman Emperor Alexander Severus. The second is part of an heraldic design of griffins.

FOREWORD

The Museum has been fortunate in coming into the possession of several collections of ancient American gold which, being combined, number more than 600 objects, not counting fragments. The exhibition which has recently been opened, brings out the fact that this Museum is so fortunate as to possess a much larger collection than is to be found in any one other locality. It was an unusual coincidence that brought the two most important accessions to the Museum at almost the same instant, one from Paris and the other from South America. It is to these two collections that Dr. Farabee devotes the principal article in this JOURNAL. Special objects in these two collections are reserved for separate treatment, together with other collections in the new exhibit,

Père Scheil of Paris, eminent among Sumerian scholars, contributes to this number an article dealing with tablets in the Museum's collection to which attention has recently been called by the publication of copies of their texts in one of the volumes of the Babylonian Series of the Museum. These tablets, catalogued in 1917 by Dr. Stephen Langdon, who described them as parts of a Sumerian code of laws, are now for the first time translated by Père Scheil. The chief interest attaching to these ancient documents is their relationship to the famous Code of Hammurabi discovered a few years ago by the French excavators at Susa and now in the Louvre. The Code of Hammurabi is assigned by scholars to about 2000 B. C. It has been pointed out that it was this code that furnished Moses with his model for the legislation he gave to the Jews about a thousand years after Hammurabi. The tablets in the Museum now made known, are written in the older Sumerian language and prove the existence of a code of laws at least a thousand years before the time of Hammurabi, to which original source his Babylonian laws may be referred. Until the discovery of these tablets, Hammurabi's Code was the oldest known. As research proceeds, the beginnings of civilization appear to retreat farther and farther into the remote past. It can hardly be doubted that the earliest efforts to systematize knowledge and organize human experience for the guidance and conduct of society belong to a very much earlier time than that to which our earliest evidence applies. The documents that are published in this JOURNAL by Père Scheil will serve to encourage further research in the reputed cradle of civilization.

Dr. Leon Legrain has selected from the unpublished tablets in the Museum collection one that contains an inventory of the gold treasure that was stored for royal account in the rooms of the Temple of Baal, about 1300 B. C. The expeditions from Philadelphia that excavated Nippur discovered these chambers and the inventory now for the first time published by Dr. Legrain was among the records which they recovered.

That the art of any people or of any age is an index to its character is a common observation which may be verified by an examination of the collections in a museum in connection with historical or ethnological study.

Egyptian art is the slumberous perpetuation of an immemorial and all powerful tradition. Elaborated under the supervision of an ancient hereditary authority, it is the supreme achievement of conservative intelligence, satisfied and without curiosity. It has the smoothness and simplicity of a well worn system, the strength and dignity of conscious power and of energy under control, the mass and immobility of a prodigious fixed idea represented by the Nile. Greek art is a purely intellectual exercise based on close observation and rational habits of thought. Its outstanding quality is proportion. It seeks to define in explicit terms the beauty that is implied in crude matter. With a wonderful knowledge of the laws of vision and ruled by a love of the purely physical it preserves a negative or evasive attitude towards things spiritual. Gothic art is all vitality, vigorous action, the essence of conflict, the spirit of youth. Roman art is the apotheosis of the State, proclaiming in unmistakable and impressive terms Rome's supremacy. Like the great white roads that ran to the ends of the Empire, its every aspect leads to Rome. It is resourceful and apt in expedient, but not intellectually alert or sensitive in matters of form. Its affinities are not so much with ideal relations as with practical values. Together with the largeness of a tolerant ascendancy it often presents an encumbered aspect, for it fails to divest itself of the irrelevant. It employs and exemplifies great and noble principles without expounding them completely or realizing their full possibilities. Arabic art at its worst is wayward, illogical, capricious. It is indirect, involved, intricate and lavish of adornment. At its best it reveals an exquisite refinement of feeling, expansive, ardent and imaginative.

Another general observation, easily verified, is that decorative

art as distinguished from structural has in the past invoked living nature for counsel and instruction. It has taken its text wholly out of nature's book of animals and plants. To exploit inanimate nature in pursuit of the same ideals is a practice altogether different in results, and, except in subordinate and special relations, insignificant. Fancy and mechanical expedient have in the course of time derived from these natural themes many related ideas that came to be appropriated to the uses of decorative art and that reappear again and again incorporated in what we call historical design.

Egyptian art concerns itself with the human form, with the forms of other animals and with Nile plants. Greek painting and sculpture are concerned almost exclusively with the human form, the forms of horses and of a few other animals. In all its achievements Greek art shows an aversion for the unfamiliar and the unknown and in its interpretation of nature evinces an uncompromising preference for the specific. Chinese art employs the forms of men and other animals together with trees and flowers and floods and rocks and hills and clouds, but with an interpretation all its own. With a clear recognition of the spiritual attributes of the universe and ever aware of the imminence of the unknown, it embodies in its message a veiled allusion to the mystery beyond. Chinese art, having command of a wide range of phenomena in nature, translates concrete images into abstract terms, expresses itself by means of suggestion and fixes the attention on things not perceptible to the senses.

Arabic art may be called the exception that illustrates by contrast the appeal to nature that is otherwise common to the art of all peoples. The making of pictures of any kind being forbidden, the artistic impulse of the Arab, when it had once been released by new experiences, was forced into other channels. Yet it is perfectly clear that even with the Arab, under ban as he was, complete detachment from the natural world was utterly impossible. Arabic art, in spite of its prohibitions and withdrawn from nature, associates itself not with animal life, it is true, but with vegetation. Expressing itself in fancy, it follows at a distance the order of development in plant life, elaborated and construed with restless energy. When animal forms appear in this scheme of decoration in defiance of the Prophet, it is obvious that they are present under protest, destroying the harmony of the scheme. When, for example, the lion appears on a rug or a piece of fayence, as he occasionally does, he is admitted with amendments and reservations that make him painfully self conscious and

uncomfortable. It is at once apparent to the eye that this tortured and emasculate king of beasts, singing off key and doing penance for his sins, is alien to the spirit of Arabic art. His place is really in early Christian art among the saints and martyrs.

These two observations: art as revealing human character and the universal appeal to living nature for ideals and modes of artistic expression, furnish legitimate bases for a comparison of the art of all peoples, however far asunder.

When we come to consider the artistic output of a people like the ancient Peruvians, who are remote from the traditions on which we have been brought up, we are at once helped by a recognition of these two principles, for Peru furnishes an interesting illustration of the way in which art is related to life. It is evident that Peruvian art was a conservative product, perpetuating a very ancient tradition, and obeying an impulse imparted under very special conditions. It is a mechanism which admits of little freedom, but which is rich in the accumulated experience of many generations, informed by memories of remote and primitive beginnings.

An examination of this national product reveals at once the fact that the Peruvian artists resorted almost exclusively to the animal kingdom and that their favourite themes were derived from men and beasts alone. Human beings, creatures in fur and feather, fish and reptiles, figure in their textiles and their tapestries, but no trace of plant life is to be found in these connections.

In a finite universe, completely measured and defined by direct observation, Greek art would correspond exactly with our mental experiences and satisfy all possible demands. In such a universe Chinese art would be unintelligible were it not inconceivable. But in an infinite universe, where we move before a veil through which we cannot see, Chinese art with its subtle allusion to things unseen and undefined, answers more nearly to our inward experiences than Greek art with its precise definitions and its entire reticence on the mystery of things beyond the reach of observation.

Apart from their physical properties which in each instance are taken direct from nature, the art of Greece and the art of China have as a common attribute a strong personal note that proceeds from intellectual freedom and from the direct touch of the artist with his subject matter.

Now the art of Peru has only this in common with these two

great historical performances: that all its physical properties are likewise derived from nature. It is otherwise of a wholly different order, a difference that corresponds closely to the exceptional character of Peruvian civilization and the nature of the Peruvian people. In ancient Peru the theory of State control was carried into practice as far as it could go. The State determined where a man should live, prescribed his movements, fixed his occupation, assigned his rations, designed the cut of his clothes, built his house and educated his family. All property belonged to the State and even the members of the ruling family were themselves subject to the system. Such a condition of society was possible only with a docile people schooled in the habit of obedience. A rigid system combined with strict discipline, in operation for ages, had stamped itself on the character of the people and is manifest in their art. It is clear at a glance that the province of Peruvian art was neither to define with exactness like Greek art, nor yet to discredit the claims of exact definition by the implication that all nature is part of an unfathomable mystery as in the case of Chinese art. Its affinities are with neither of these, but with the art of ancient Egypt. Its purpose is the perpetuation of tradition and the orderly reproduction of fixed ideas. It is impersonal and in touch only with the past. There is present also a special quality that is shared in some degree by Egyptian art, namely, the literary quality. It evokes thoughts and sentiments that are usually associated with the art of writing. It undoubtedly has a narrative value but only in the sense that the figures of men and beasts with their derivatives that together make up its subject matter, represent the characters that appear in legend, myth and in the oral literature that must have occupied a prominent place in the civilization of Peru, a civilization without the art of writing. On their garments, hangings and textile coverings of every kind, the Peruvians wove and embroidered the legends with which their national life and social institutions were intimately associated and which they treated with pride and veneration as reminiscent of their own origins.

It would be a mistake to suppose that Peruvian art is a mechanical performance, for it is true that a tradition, however powerful and however closely identified with a rigid system, may be very far removed in its action and results from a mechanical force. It may be itself a living, sentient thing, a voluntary agent with selective powers and faculties directing the creative will and guiding the

artistic hand. To this guiding and conditioning force must be attributed the unity and organic variety that are outstanding qualities of Peruvian design. There is never a false note; every element is related to and in harmony with every other element as well as with the general theme. Such intrusive and violent effects as that produced by the introduction of a lion into the pattern of an oriental rug never occurs in Peruvian art simply because the system that dominated that art through its hold on the life of the Incas, makes such an occurrence automatically impossible. Perhaps the simplest way to make this clear is to recall the fact that all the figures used in this decorative art is based with uniformity on an animal ancestry that forms the substance of a long cherished tradition. Its development proceeds cautiously along the line of spontaneous diversification in traditional themes. The result is unity, discipline and harmony at the expense of individual freedom and of the personal quality. These are among the lessons taught by a study of Peruvian art. The fine textiles from the Museum's large collection, reproduced in this JOURNAL and described by Mrs. Benness, serve admirably to illustrate these lessons.

What will an intelligent future age learn about the character of this day and generation from a study of our art? Much anarchy will doubtless be found and insanity will be an observed characteristic. A closer observation will reveal also, in an undercurrent, a calculated appeal to the past for guidance and salvation. This minor note in contemporary art, this plea for sanity and moderation that would build the decorative side of our lives on old and richly endowed foundations corresponds to the more sober and trustworthy thought of the time. It is opposed to the general and more conspicuous tendencies observed in our decorative arts, which in turn correspond to the violent, erratic and revolutionary currents in contemporary life and character. The Museum, having enlisted its resources in the service of an intellectual effort on behalf of sanity, has entered a field of usefulness capable of indefinite expansion. In these pages, Miss Lucile Howard, formerly connected with our educational work, describes and illustrates the outcome of a visit to the Museum on the part of pupils in one of the art schools. These results can be left to speak for themselves as an example of a sphere of usefulness in which we are deeply interested.

EDITOR.





GOLD IMAGE, 9 INCHES HIGH. QUIMBAYA.

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ANCIENT AMERICAN GOLD

THE objects described in this article comprise the main part of an exhibition that was shown to invited guests of the Museum on April 26th last. Since then they have remained on exhibition, under temporary conditions, on the main floor of the University Museum.

This exhibition, the first one of the kind that the Museum has ever shown, consists in its greater part of two collections recently acquired. The first of these was bought in Paris in the latter part of 1919 and the other was acquired in the early part of 1920. The Paris collection represents all of the ancient American gold-working civilizations from Mexico to Peru. The other collection consists of a group of objects recently excavated in the mountains near Ayapel, Antioquia, Colombia, where they had been deposited in some remote time by the Indians who produced them. This is the greatest discovery of buried treasure that has taken place in South America since the days of the Conquest.

At the time of the discovery of America the native peoples from Mexico to Peru had achieved remarkable results in metal working, particularly in the manufacture of objects of gold. It may be said in truth that the inhabitants were living in a golden age. No other people ever used the precious metal so lavishly as did the first Americans. The Spanish conquerors give glorious accounts of the splendor of the age which they so soon brought to an ignominious end.

Thirst for geographical knowledge may have inspired Columbus to set out on his voyage of discovery but certainly greed for gold was the inspiration for the conquest which followed. Cortez told the plain truth to Montezuma, as he afterwards learned to his sorrow,

when he said that the Spaniards were suffering from a disease which only gold could cure. Montezuma sent supplies of the yellow metal to alleviate their suffering only to discover that the disease was really incurable. Gold has ever been interwoven with human history but nowhere have the results of gold seeking been so disastrous to all concerned as in the Spanish conquest of America. The possessors together with their superior culture were immediately destroyed while the dispossessors and their government were debauched and immediately began to degenerate.

The Lucayos, who were the first to greet Columbus upon his arrival in the New World, were wearing gold ornaments which at once attracted the attention of Columbus and his followers. They lost no time in exploring the islands for other wealth but hurried about from island to island following the imperfectly understood directions of the Indians, seeking only golden treasure which for a time eluded them. In Cuba and San Domingo larger amounts were found but it was not until they reached the mainland in Central America, Mexico and Peru that enormous quantities were secured. Some of the first accounts are interesting. When Columbus arrived at the Bay of Cerebaro he found the natives "wearing neck ornaments of base gold in the form of eagles, lions and other beasts and fowls." His men took from the house of a chief "gold plates, little eagles, small quills which they string and wear around their legs and arms and gold twists they put about their heads in the nature of a coronet." They met men wearing gold plates suspended from their noses. On the west coast gold was collected in the shape of bracelets, collars, earrings, breastplates, helmets and "certaine barres wherewith women bear up their breasts." It is estimated that the ancient cemetery near Bugaba, Costa Rica, has yielded \$50,000 worth of gold objects in the form of birds, frogs, fish, alligators and numerous anthropomorphic forms with human and animal elements combined, the most common being the human body with the head of an alligator, jaguar or parrot.

When Cortez arrived on the coast of Mexico he sent greetings to the Aztec King. In replying Montezuma made one fatal blunder. He recommended Cortez to return whence he came but at the same time he gave him among other presents a "huge gold plate large as a carriage wheel, representing the images of the sun and moon and engraved with figures of animals"—Cortez accepted the presents, sent the gold plate valued at \$25,000 to Spain, destroyed his ships



Symbolic figure, 7 in. high. Cast in high grade gold.

FIG. 51.

to prevent disaffection among his followers and set out to conquer Mexico. When, after much tribulation, he finally arrived, he found Montezuma sitting in his royal litter glistening with polished gold. The King was seized and his treasure valued at \$7,500,000 confiscated, but it was not all carried away. When the Spaniards were compelled to flee, Cortez opened the treasure and told his men to help themselves, but to remember that gold is heavy. In the fighting that followed many of his warriors lost their lives because their pockets were too heavy with gold.

On that eventful day in 1513 when Balboa beheld the Pacific from a mountain peak in Darien, he learned of a great empire to the southward where gold was a household metal. Where "pots and pans and kitchen utensils were of gold and plate" and the people valued it not. Balboa was engaged in weighing 4,000 ounces of wrought gold which had been given him by an old chief when the chief's son contemptuously overturned the scales, saying that if he took so much interest in such a small amount he should go south where the people had ships with sails and oars; there he would find sufficient gold to satisfy his desires. Later, on the Pacific coast, a chief told Balboa the country far to the south was rich in gold, that the people used domestic animals to carry burdens. He made a model of the animal in clay and the Spaniards thought it must be a camel.

Balboa decided to build some ships and go in search of these marvelous people who were so highly civilized. He sent to Cuba for materials which were landed at Acla and carried across the mountains to the Pacific where the ships were built. It was a most difficult undertaking. No one else could have accomplished the task, and he succeeded only because the chief, whose daughter he had taken as his wife, furnished men and supplies. At last four small vessels were completed and three hundred men were ready to depart, when Balboa was called back to Acla for final instructions. As he approached the village he was met by Francisco Pizarro who put him in chains and carried him to the Governor's quarters where false charges were made against him and he was beheaded over the trunk of a tree. Thus that monster of cruelty, Pizarro, proved himself a base traitor to his old friend and benefactor.

The death of Balboa at this time was a great calamity for South America. He was humane and judicious, one of the few men of high character among the Conquistadores. He was a natural



Symbolic figure, 7 in. high. Cast in high grade gold
FIG. 52.



Crown of beaten gold with designs in repoussé and a bird with outspread wings on top.

Band, 6 in. high.

FIG. 33.

leader of men. He had saved the starving colony at Darien by winning the confidence of the Indians. He took constant care to prevent the natives from being ill-treated and robbed. The Conquest of Peru would have been a very different story from that which took place under the heartless, unprincipled Pizarro a few years later.

On May 16, 1532, Pizarro came to the river Chira in Peru "where he burnt two chiefs and some other Indians" and founded his town of San Miguel. He reached Caxamarca November 15th and the next evening treacherously massacred some two thousand Indians without the loss of a single man and captured the Inca King. Learning of Pizarro's love for gold, the Inca offered to fill

the room in which he was confined with pure gold as a ransom for his freedom. The offer was accepted and the gold soon began to pour in from all directions. When the room had been filled to the height a man could reach, the cupidity of the Spaniards could stand the strain no longer. The gold, valued at ten or fifteen million dollars, was seized and divided among the leaders and the men in proportion to their stations. The Royal fifth was sent to Spain under the care of Pizarro's brother. But the Inca, his ransom paid, was not released; he was tied to the stake and given his option of being burnt alive as a heathen or strangled to death as a Christian. Whether or not he made a sign is a question, at any rate, he was baptized and suddenly strangled with a bow string.

In the meantime Pizarro had sent a brother to Pachacamac where he stripped the temple of twenty-seven loads of gold but he was unable to find the four hundred loads which the chief had previously sent away for safety. When the news of the Inca's murder reached the pack trains bearing additional gold for his ransom, the men turned aside with their treasures and hid them away from the Spaniards. The two hundred Indians, carrying the great gold chain which had encircled the plaza at Cuzco, threw it into a lake where, no doubt, it rests intact today. All told, the Spaniards secured many millions of dollars worth of golden objects but many more millions escaped them. The search for this buried treasure has continued to the present time and will continue for generations to come.

Much of the ransom gold came from the sacred temples, and the accounts given by some of the Spanish superintendents of the collecting, give us some idea of the splendor of those religious centers. At Cuzco, the temple occupied one whole side of the great court. The cornice of the walls, a yard wide, outside and in was plated with gold as were the inner walls also. At the eastern end a great plate of gold, representing the sun, spread from one wall to the other. This great image was not taken for the ransom but when the Spaniards afterwards returned to Cuzco, it had disappeared and was never found. Ranged beneath this sacred symbol on golden thrones, dressed in their royal robes, sat the desiccated remains of the Inca rulers. The High Priest wore a grand tiara which included a circular plate of gold representing the sun and a half-moon of silver. His headdress was adorned with feathers of the macaw and covered with gold and jewels. His loose sleeveless tunic



Chibcha gold objects from the sacred lake of Guatavita. The high priest, sprinkled with gold dust—the El Dorado of the Spaniards—proceeded on a raft to the center of the lake where he burnt incense and sacrificed offerings of gold and emeralds. The Zipa, at the approach of the Spaniards, is said to have sacrificed to the lake two tons of gold and precious stones.

FIG. 54.

reached to the ground. Over it there was a shorter garment of white wool trimmed with red which came to his knees and was covered with plates of gold and precious stones. On his arms he wore bracelets of gold and on his feet, shoes of finest wool.

Besides the worship of the sun the Incas had special personal deities in whom they placed great confidence. They were in the form of animals or birds some of which were of large size. That of Pachacuti was sent in pieces for the ransom. Each member of the royal family had his special deity which he called "brother." These were always buried with their owner. Some were found by the Spaniards but that of Huayua Ccapac, a golden image of great value, was never found, although much sought after by the Spaniards. The story of Peru is already familiar. Let us return to the Isthmus.

Pedro de Heredia obtained a concession on the coast from the Magdalena river to Darien. He was a native of Madrid. In his wild youth he had his nose slit in a street brawl and revenged himself so outrageously that he fled for safety to San Domingo where he inherited a large estate from a relative. He brought to the colony with him as his lieutenant Francisco Cesar. They arrived at Cartagena January 14, 1533, with fifty men and twenty horses. Heredia brought with him an Indian girl who had been carried off to San Domingo where she learned Spanish so that she could act as an interpreter. Through her influence, Heredia made peace with the neighboring chiefs from whom he secured supplies. From his first conquering expedition into the interior he brought back gold amounting to \$3,000,000 worth and a massive figure of gold from a temple, weighing one hundred and twenty-five pounds. He found the great cemeteries of Zenu. He made other successful expeditions. It was believed that he concealed a great deal of the gold he found and he was thrown into prison but later exonerated. The ship in which he took passage for Spain was wrecked at sea.

Vadillo, the officer who threw Heredia into prison and robbed him of his treasure, apprehensive of his own safety, decided to undertake some discovery. He took with him Cesar, who had headed an expedition which crossed the Abibe mountains and returned with \$90,000 worth of gold taken from the tombs. They crossed the mountains and attacked the chief, Nutibara who, carried in a litter, richly inlaid with gold, commanded his warriors in person. He was defeated and Vadillo moved on to the Nori valley where the chief, Nabuco, to get rid of him, presented him with gold, at the same time

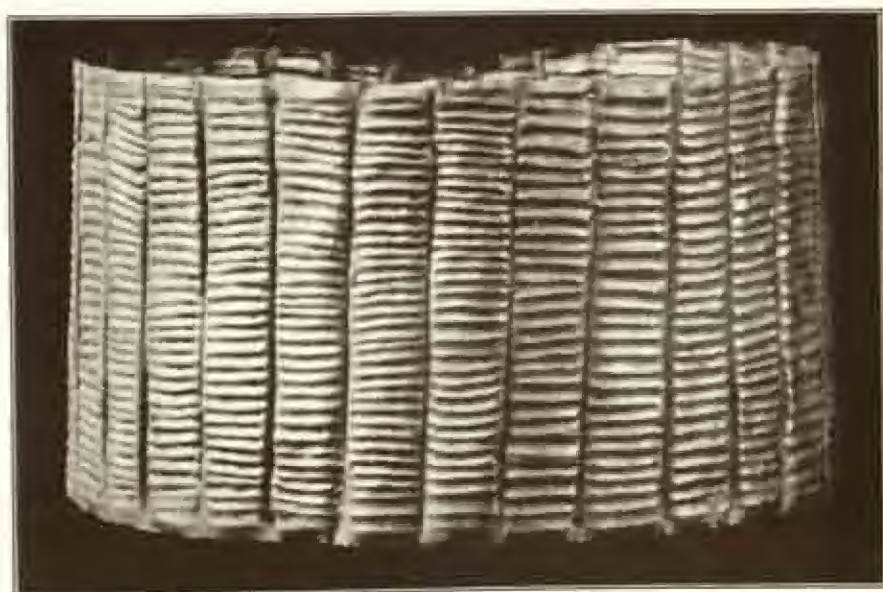
telling him he would find more in the next valley. The Spaniards pushed on and captured some of the entrenched natives, among them the wife of the chief, Buritica. The chief surrendered himself as a ransom for his wife. He and his family had some gold, and upon his refusal to reveal the whereabouts of his treasure Vadillo burned him alive. Leon says, "The detestation we conceived for these Indians was such that we hung them and their women by their hair to the boughs of trees; and left their bodies there, whilst amid grievous moans their souls went down to hell." Soon afterwards Cesar died and the expedition broke up. Vadillo had discovered the great valley of the Cauca which contained the richest gold mines of the whole region, but, he was a fugitive from justice. He was sent to Spain and died in poverty.

About the end of 1530, some merchants of Augsburg secured from Charles V permission to make settlements in Venezuela. A German, Alfinger by name, was sent out as the first Governor of a colony which was established at Coro. He soon found that the country round about was too barren to support a colony, so he turned his attention to the westward. He crossed the divide and descended the Cesar river to the Magdalena and succeeded in obtaining some \$60,000 worth of gold objects. He impressed into his service several hundred native porters. To prevent their escape they were chained together in a long line, each man with a ring around his neck attached to the chain. They suffered terribly from the hardships of the journey and the cold of the mountains. When one was too sick or too weak from exhaustion to keep up with his companions, there was no time to unfasten the ring from his neck, so Alfinger's trusted servant cut off the poor fellow's head and let his body drop out by the wayside. Only a German could outdo the Spaniards in perpetrating horrible practices upon the helpless natives. Three hundred naked packers died from cold in the Cachiri mountains. The natives continued the defense of their homes. Many of Alfinger's men were killed, his butcher servant among them, and he himself was wounded in the neck. He attempted a retreat but died from his wounds on the third day. Many of his men died of hunger, others killed and ate their Indian porters, a few reached a river where they found some natives who took pity on them and gave them food. The fiends stabbed to death the man who brought them food and seized his canoe. Three years later they reached



Crown or circlelet of gold with bird figure in front.

FIG. 55.



Crown of beaten gold, 4 in. high.

FIG. 56.

Coro. The other German expeditions in search of El Dorado do not interest us here.

We must go to Southern Spain for a glimpse of the early life of our next Conquistador. An illtempered boy was driving a heavily laden donkey along a muddy country lane. The donkey could make slow progress through the deep mire. In his impatience the pitiless rascal beat the donkey to death. Now this happened to be the family donkey and the boy's father was a very poor peasant. Afraid to go home, the boy ran away to Seville. Later on he learned of an expedition sailing for Darien and offered himself as a soldier. When questioned, he said his name was Sebastian, that he came from Belalcazar, but he did not know his family name. So Sebastian de Belalcazar enlisted and sailed for the New World. He served at Darien and in Nicaragua. He joined the expedition to Peru and was sent by Pizarro to conquer Quito with 140 men. He carried out his orders but he was ambitious, ungrateful and unfaithful. He set out to find a dominion for himself. In 1536 he appeared on the plateau of Popayan in Colombia. The Indians defended their homes with desperation but he practiced such cruelties upon them that they fled to the mountains. He extended his raids down the valley of the Cauca and founded the town of Cali. His cruelties nearly exterminated the population of the whole region. Those remaining refused to plant their crops and famine ensued. Satisfied with his work, Sebastian de Belalcazar set out for Spain in 1539 to obtain a concession as a Governor independent of Pizarro. He ceased to correspond with or to acknowledge his debt of gratitude to Pizarro, his chief, to whom he owed his position. He went to Spain, received his concession and returned. Robledo received a concession adjoining that of Sebastian but when he came with a few men to occupy it, Sebastian with a large force attacked his camp at night, captured Robledo, his old friend, and put him to death by hanging. For this treachery Sebastian was condemned to death and ordered to Spain, but he died on the way in 1550.

The territory Sebastian de Belalcazar ravaged was that occupied by the Quimbaya, the race of goldsmiths. They produced no gold themselves but obtained it from the tribes to the northward in exchange for salt and manufactured articles. The Spaniards reported them as the best goldsmiths in Granada and a Chibcha legend confirms the story of their former reputation. Their smiths were in such demand by other tribes that their chief required two men

in exchange for one of his smiths. A Chibcha chief, who greatly desired to get possession of the Quimbaya territory, hit upon a novel strategy. From time to time, as he had need for goldsmiths, he sent two of his trusted warriors for each smith until finally he



Personal charms or amulets of gold in the form of animals and insects. Costa Rica.

FIG. 57.

had thus planted a sufficient number to effect the capture of the chief and his beautiful plateau country. Sebastian used more direct methods, he destroyed the population and took possession of the country.

Among the Quimbaya only those of high rank, the chiefs, priests and war leaders, were allowed to wear objects of gold. The bodies of the chiefs were cremated and their ashes deposited at the bottom of deep graves in golden urns over which were buried the bodies of their wives. The chiefs wore cotton garments ornamented with gold plates. The doors of the palisades were hung with plates of gold which gleamed in the sun and clashed melodiously in the wind. The gold plates from the door of Sogamoso palace were valued at \$80,000. The amount of gold carried away by Sebastian is not recorded.

We must return to the Caribbean, for the conquest of New Granada proper took place from the north coast. Quesada, the destined destroyer of the highly developed Chibcha civilization, was a cultured, educated lawyer at the High Court of Justice at Granada when he received an appointment as chief magistrate of the new province of Santa Marta on the Magdalena river. In company with the new Governor, Pedro Lugo, he landed at his post in December, 1535. The Indians were hostile and food was scarce. Lugo set out to secure gold and provisions. He captured an Indian village but finding nothing, he returned with the sick and wounded while his son Luis continued along the coast. The son was successful in securing large amounts of gold and provisions, but instead of returning to the relief of his father and his destitute friends, he hailed a passing ship, went on board with all the gold and sailed for Spain.

The Governor was overcome with grief at the infamy of his son. He was in great difficulty and resolved to send out an exploring expedition to find the source of the Magdalena in the hope that the rich and fertile provinces which had been reported might be discovered. For his leader he selected Quesada, who started out on April 6, 1536, with 600 soldiers and 100 horses accompanied by five large boats manned by 200 sailors. The men were encouraged by the knowledge that great quantities of gold had been secured from the cemeteries of Zenu by their neighbors of Cartagena. When Quesada arrived at the confluence of the Cesari river, where he had planned to meet the boats, he learned that the fleet had met with disaster. Three of his best boats had been lost but others had been secured and were on their way. Quesada had lost a hundred men and many more were sick. When the boats arrived the sick were put aboard at once and the journey continued up river. A trail



Bell monkey of fine gold, 3 in. high. Central America.

FIG. 58.

was cut through the thick forest for the men and horses. Mosquitoes, ants and other insects tormented man and beast. Many died in the forest. For a month they saw no natives or signs of cultivation. A hundred more men had died. The two oldest and most experienced officers advised Quesada to return, saying that the whole party was of one mind. Quesada told them that to retreat would be more fatal than to advance, that their Governor had spent his fortune on the expedition, that he would not abandon the undertaking and that he would hold as his enemy anyone who proposed such a course. For the first time in his life Quesada armed himself. The captains submitted and a new start was made.

A reconnoitering party which was sent out soon returned, having discovered cultivated districts in the interior. The boats were ordered to return to Santa Marta with the sick and to bring back reinforcements. The officer in charge had orders not to molest the natives, but he soon began to kill and plunder the people of the villages along the river. Finally the natives united in defense and

three boats filled with the sick were sunk, only one escaped. Quesada himself treated the Indians along the way with consideration; he even executed a soldier for robbery. From his later conduct we may judge these acts of justice as matters of policy only. Quesada with only 200 men and 60 horses began the ascent of the Opon mountains, 6,500 feet in elevation. The cold was intense. Thirty-



Disc of beaten gold, decorated in repoussé. $7\frac{1}{4}$ in. in diameter.

FIG. 59.

four men and one horse perished on the way. We can hardly imagine the joy of the survivors when from the summit of the mountain they looked out upon a vast cultivated plain dotted with lakes and villages—the "valley of palaces." They were the first to behold the "Chibcha Empire" with all its wealth of culture and gold. More than forty years had passed since Columbus met the original Americans. The West Indies, Mexico, Central America,

Darien, Peru, Ecuador and Cartagena had been devastated, the natives murdered or robbed and enslaved. But the Chibchas in their splendid isolation knew nothing more than vague rumors of what was going on about them and were happy in their seclusion and prosperity. Had they seen the small dark cloud gathering on the top of Opon, they could not have comprehended its evil foreboding.



Disc of beaten gold, decorated in repoussé. $7\frac{1}{4}$ in. in diameter.

FIG. 60.

Quesada immediately pushed on and attacked the chief of Suesca. The Zipa, the name applied to the Chibcha ruler, was in his palace at Muequeta when he received a messenger from Suesca who told him of the sudden appearance of strange men and animals, terrible and irresistible. The Zipa, with several hundred warriors, set out to meet the invader in person. The army in the field was a

fine spectacle. The mummy of the former Zipa was carried in front of the army. The Zipa himself was borne on the shoulders of his attendants in the royal litter richly inlaid and decorated with gold and emeralds. The war chiefs wore feather helmets set in gold and emeralds with gold crescents on their foreheads, gold nose and ear ornaments, great bracelets, collars, breastplates and shields all of solid gold. The soldiers were armed with spears and swords of hardwood, slings and spear-throwers. A few used bows and arrows but without poison. There was a brief engagement, in which the Spanish cavalry inflicted fearful slaughter. The Zipa, convinced that defense was useless and his country doomed, decided to retire to some secret place from which he could direct operations, in the hope that some terms might be made with the enemy. He sent messengers with presents to arrange for an interview and thus delayed Quesada until he could perfect his own arrangements and send away his treasures. Quesada captured the palace at Chia but the heir apparent fled after concealing his treasure which was never discovered. The Spaniards, provoked, hurried on to capture the Zipa's palace at Muequeta where they expected to find a great store of gold. After severe fighting the palace was taken but the Zipa with his treasure had escaped.

The thirst for gold was unsatisfied. Exploring parties were sent out which met with determined resistance in the north and west and secured no gold—nothing but a few emeralds. Then in desperation Quesada rushed to the east to take the chief of Tunja by surprise before he could conceal his treasure. The chief, an old man, had heard of the butcheries of the Spaniards and had resolved upon conciliation as the only hope of humane treatment. So, when Quesada appeared, he sent presents and asked him to wait outside the palace until preparation could be made for his reception, but Quesada and his villains forced their way through a defenseless crowd and broke into the palace. They found the chief seated on his throne. When asked concerning his treasure he made no reply. Upon being urged and threatened, he said "my body is in your hands but you cannot command my will." He was seized, put in chains and died of a broken heart a few days later. His palace was looted and the contents heaped in the courtyard. Besides the rich cotton cloth matting and other decorations there were some \$600,000 worth of gold and silver and 1,815 emeralds. This was the only large treasure secured by Quesada. He never learned the secret



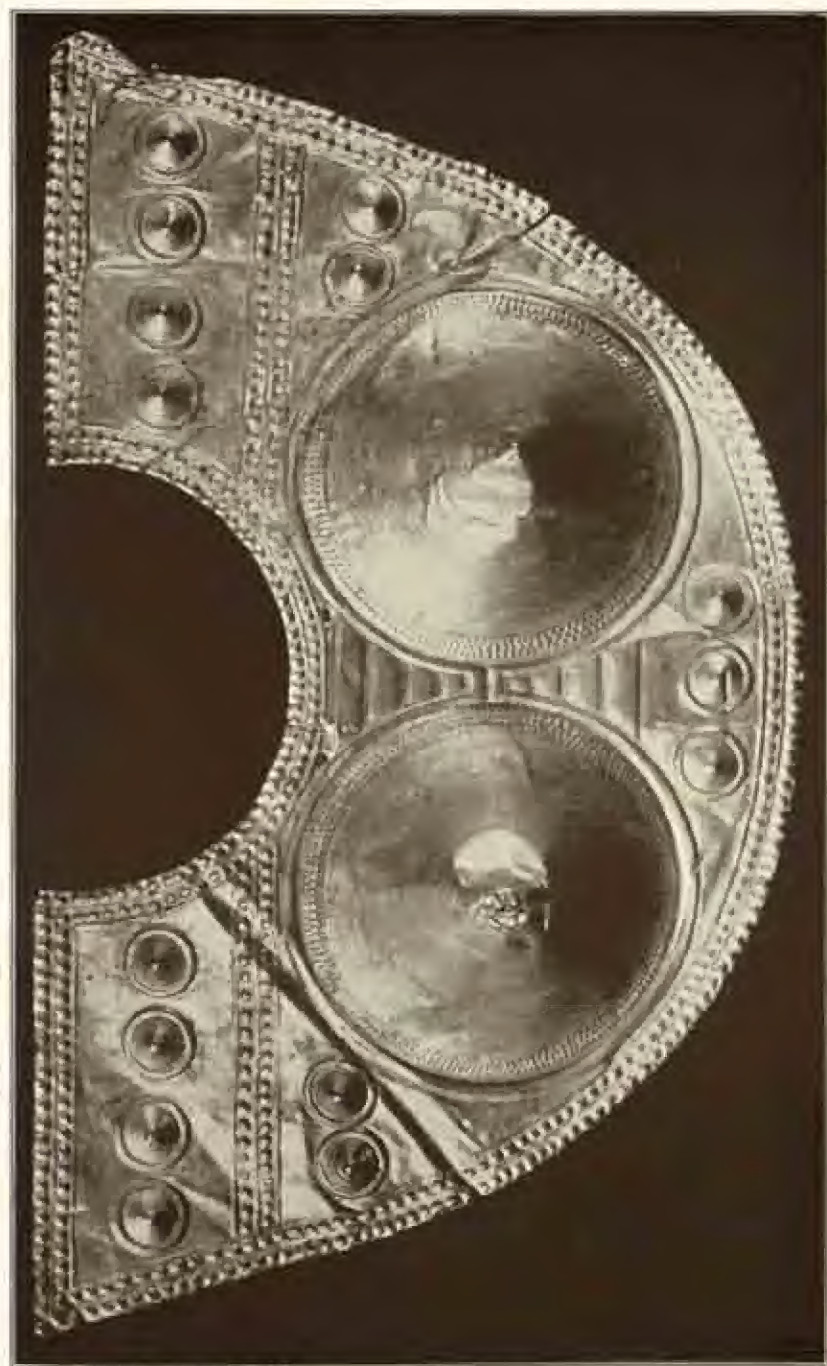
Nose ornaments. The bottom one is hollow cast.

FIG. 61.



One of three breastplates of beaten gold all the same size, 22 in. across, having lateral bosses 6 in. in diameter and 4 in. high.
A realistic jaguar is attacking an unacunda. Antioquia, Colombia.

FIG. 62.



One of three breastplates of beaten gold, decorated in repoussé. 22 in. across. Antioquia.

FIG. 63.

burial place of the Zipas. The body of the Zipa was embalmed and buried in the trunk of a tree lined with gold. Subchiefs were buried in cemeteries with their jewels and great amounts of gold. One cemetery yielded \$2,500 in gold. In one palace the Spaniards found an urn of gold set with jewels weighing 437½ ounces.

At Tunja, the Spaniards heard of the palace of the Iraca, the



Breastplate of beaten gold, 13 in. in diameter, with lateral bosses, 4 in. in diameter and 3 in. high. Two crocodiles are meeting at top and bottom. Antioquia.

FIG. 64.

religious chief located at Suamo, the most sacred place in the Chibcha country, twenty miles away and rushed off to despoil the temple. They broke down the doors and found a single old priest guarding the sacred place. They saw behind him the mummies of the holy men adorned with plates of gold. While the Spaniards hesitated, flames broke out and the temple, its treasures and its guardian

priest were consumed before their eyes. What a glorious end! The Chibcha civilization thus disappeared. This was the last stronghold.

Quesada took up his headquarters in the palace of the Zipa at Muequeta and distributed his plunder among his followers. But the amount for each was small, no one was satisfied; so new sources



Breastplate of beaten gold, 12 in. in diameter, with lateral bosses 4 in. in diameter and 3 in. high. Crocodile at top and bottom. Antioquia.

FIG. 65.

were sought. They learned where the Zipa was in hiding and attacked him at night hoping to find his treasure. The Zipa was mortally wounded but his followers soon rallied and put the Spaniards to flight. The Panches, old enemies of the Chibchas, began to raid the Chibcha country. The old Zipa had died. The new Zipa went to Quesada with gold and emeralds to ask for assistance against his

enemies. An agreement was made and the Panches were defeated. But the Zipa had made a fatal mistake. Pizarro had held the Inca King for a ransom. Why not try the same tactics on the Zipa? He was their guest. He had entered their camp on promise of safe conduct. But the fiends wanted gold. The Zipa was put in chains. He told them that the treasure had been divided among the chiefs



One of three similar breastplates of beaten gold 10 in. in diameter, with lateral bosses 4 in. in diameter and 3 in. high. Antioquia.

FIG. 66.

when the old Zipa fled from Muequeta. He was kept alive and tortured for many days but finally died in great agony without saying another word. He had told them the truth. One can hardly believe that this awful crime was perpetrated by that cultured gentleman who, a year before, was so jealous of Spanish honor that he executed a soldier for robbing a helpless Indian.

The great fortune in gold and emeralds from the Zita's palace at Muequeta was never found. It, no doubt, was deposited in the sacred lake. The chiefs had learned from the experience of others that any attempt to purchase favor only led to further difficulty and that it was safer to dispose of the gold secretly. The Spanish greed for gold soon became notorious everywhere. The experience of Hatney, the head Cuban chief, comes to mind. As the Spaniards entered Cuba, he told his chiefs that resistance was of no avail, that gold was the god of the Spaniards and wherever the god was the Spaniards were sure to come. So he collected all the gold and cast it into the sea. But the Spaniards came, captured the chief and condemned him to be burned at the stake. A priest begged him to accept Christianity and be baptized so that his soul might go to Paradise. The chief asked if Spaniards went there, and when the friar told him that only good ones went, he replied that the best of them were bad and he preferred to go elsewhere. The poor heathen was burned alive.

Quesada saw no immediate possibility of securing more gold and, realizing the necessity of reinforcements to hold the territory in possession, he decided to return to Spain. He left his brother in charge of the government, now located at the new city of Bogata, which he founded August 6, 1538. Quesada, upon his arrival, found beautiful plateaus and fertile valleys densely populated with a happy and contented people in an advanced stage of culture. He departed leaving behind confusion, terror, desolation and death. He found a free people and left a race of slaves. They and their territory were divided into encomiendas under a government so bad that the natives had diminished by 1610 to one in three hundred. By the beginning of the eighteenth century, the Chibcha language was no longer heard in the land of the tortured Zipa.

Gold was obtained locally from the stream beds and quartz lodes by certain tribes and exchanged with neighboring tribes for other necessities. There must have been considerable traffic in gold dust and even in gold objects as accounts are given of the markets "where people sell gold and near them are they who trade in jewels mounted in gold in the form of birds and animals."

The quantity of the gold of which the objects are composed is very variable. In a few cases there is an alloy of silver but in most cases the alloy is copper. The quantity varies from almost pure gold to almost pure copper. The alloy may have been natural but there

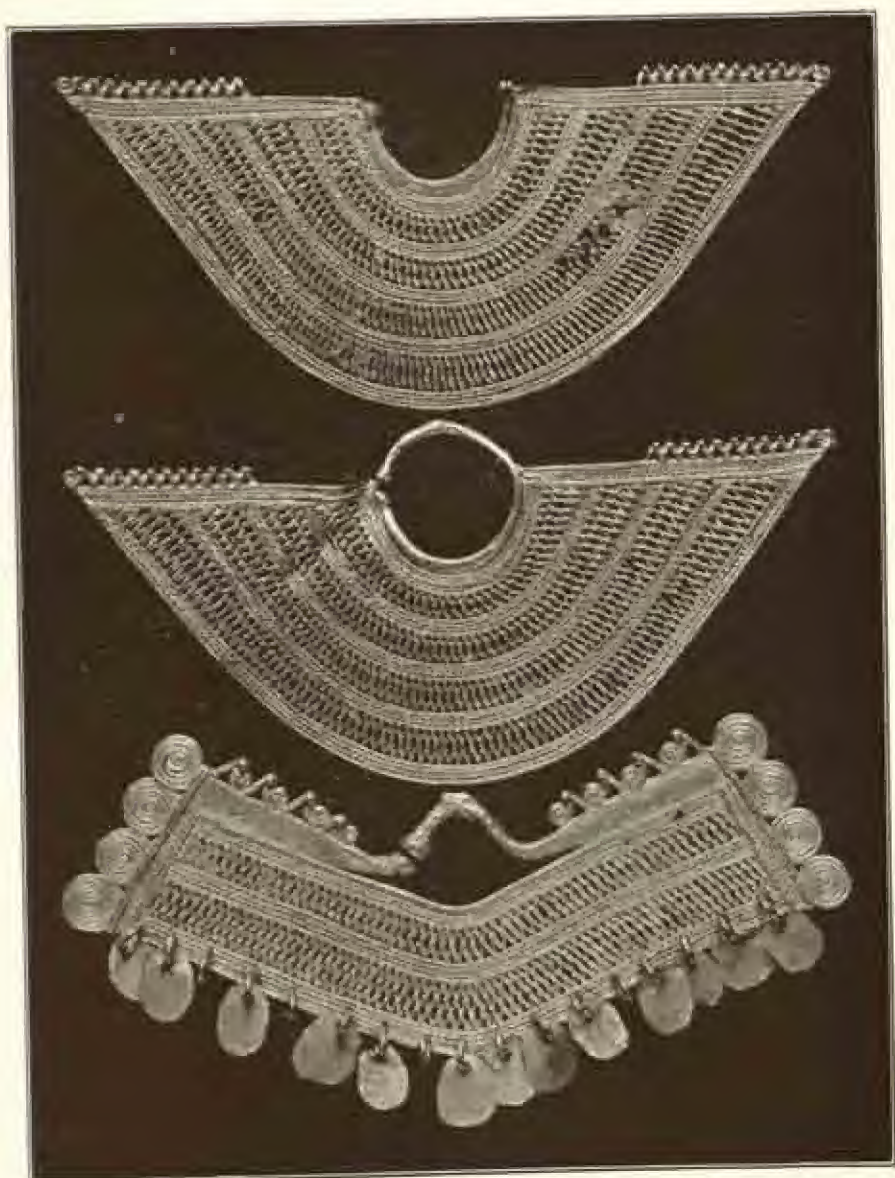
is no doubt that the workers added alloys to suit their taste and the requirements of the object in hand.

The workmanship surpassed even the number of the objects. From Mexico an account is given of "two birds made of thread and featherwork, having the quills of their wings and tail, their feet, eyes and ends of their beaks of gold, standing upon two reeds covered with gold which were raised on balls of feather work and gold embroidery, one white and other yellow." A fish is described having alternate scales of gold and silver.

The technique is most interesting. In the simplest case a single gold nugget is hammered into the form of some desired object. Other nuggets may be hammered into plates or thin sheets and cut to suit the purpose. Many objects have the appearance of having been soldered but when they are broken they show a rough fracture with pitted granular surfaces which are characteristic of casting. It is evident that a model has been built up of some plastic substance such as wax or resin. The same process seems to have been in use from Mexico to Peru. It is known as "cire perdue" and is as follows: powdered charcoal was mixed with clay and molded into the desired form on which the ornaments were engraved. Prepared wax was then applied to the details of the designs. The whole was then covered with powdered charcoal and clay. A connection with the wax model was made by means of a rod of wax coated with clay. The whole thing was then fired, the melted wax allowed to escape and the gold poured into the resulting mold. It was necessary to break the mold to get the object and this accounts for the fact that no molds of any kind have ever been found in the whole region. By this method it was possible to cast the objects which have the appearance of fine wire or filigree work. Many objects which show intricate delicate work and appear to be soldered together are in reality cast.

After casting, the objects were carefully polished on the exposed side. Men, anthropomorphs, monkeys and birds were constructed to present the frontal aspect to view while quadrupeds, reptiles, fishes and crustaceans present the dorsal view. A figure after casting was often modified by hammering as in the case of the flat feet of frogs and the wings of birds. Small objects were sometimes cast solid but all the larger ones were cast hollow with an opening at the back.

Important surfaces are carefully burnished. A specimen which contains a large amount of alloy may present a polished film on the surface of almost pure gold. This result is supposed to have been



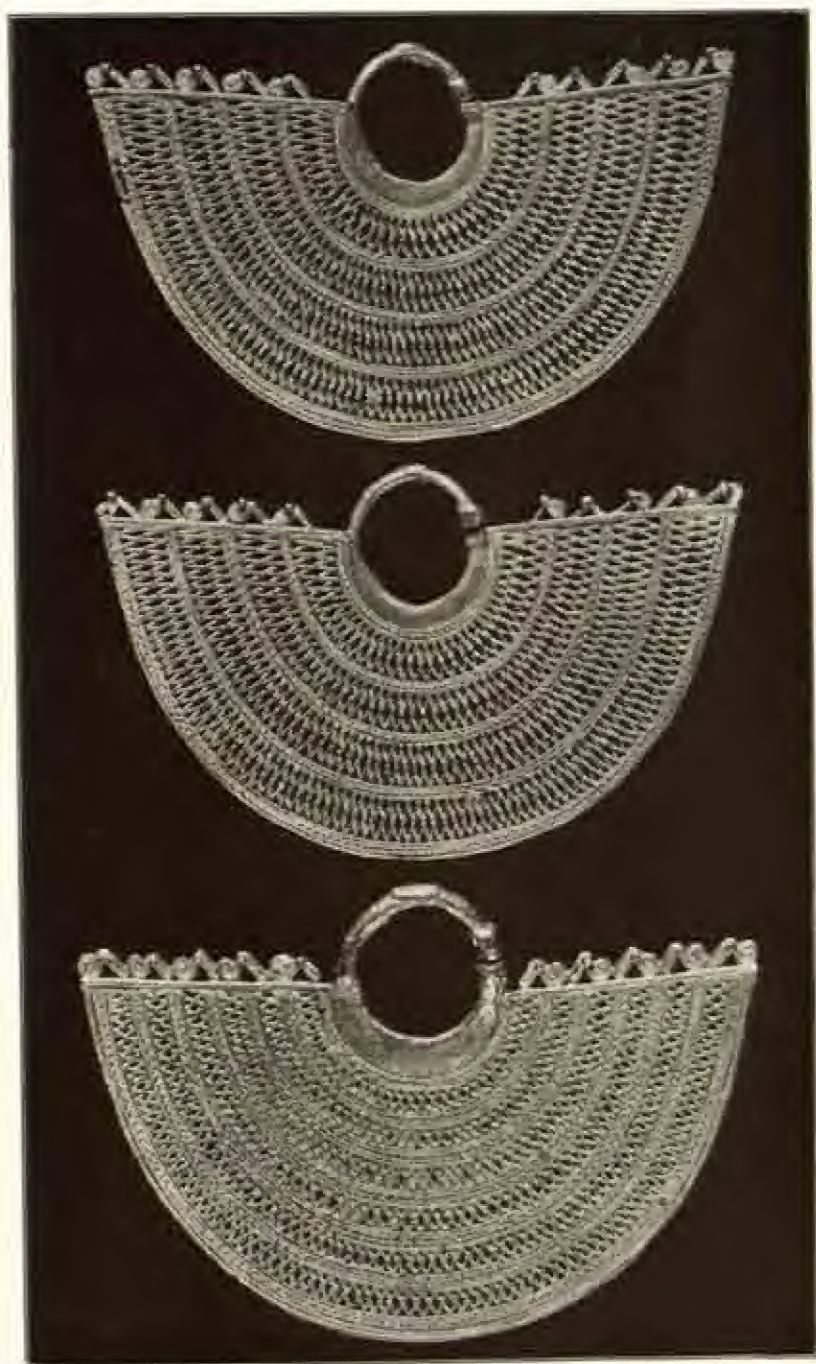
Nose or ear ornaments cast in solid gold, $4\frac{1}{4}$ in. wide. Antioquia.

FIG. 67.

obtained by coating the object with the acid juices of a certain plant and then firing it. The gold is thus brought to the surface in a thin film. The question of gilding is an interesting one. The film of gold is often so thin that it resembles electro-plating. Another method that may have been used was to coat the model with gold before it was put into the mold. When the mold was filled the gold would adhere to the surface of the object and after burnishing it would have the appearance of solid gold. The workers were very skilful also in overlaying wooden objects, as beads and throwing-sticks, with gold. They used gold inlays on wood and other metals.

Gold was used for most part as a useful metal; for decoration and ornament, but it was often associated with religious thought. According to the Inca belief, an egg of copper fell from heaven from which sprang the first Indians; after a time an egg of silver fell from which sprang the nobility; and after a longer period an egg of gold fell from which issued the Inca. Among the Chocos of Colombia, an important idol of gold was worshiped and slaves were sacrificed to it at certain seasons of the year. The idol represented a woman, who was once human and gave birth to a child who became the creator. She was deified after death, becoming mistress of thunder and lightning. The priests performed ceremonies before her to procure sunshine or rain when desired. Gods with human attributes are common everywhere and it may be supposed that many of the Central American anthropomorphs were worshiped as gods—the alligator god, the bird god and the crab god. Here the human attributes do not always constitute one of the elements in the composite gold image. An alligator body may have a bird's head. Evidently animal forms played an important part in the native mythology and religion.

The objects in the collection here represented cover the whole field of suggested uses. Some of them are, no doubt, the direct representation of the god in human form; some are animal gods; some are coverings or ornaments of idols; some are personal amulets; some show rank of wearer and others are personal decorations and ornaments. We have historic references for all these uses but in any particular case it is impossible to be sure of our ground because these objects have been obtained from ancient graves. In considering the collections it will be observed that the utilitarian element is negligible, that practically all these objects were made for personal embellishment or religious symbolism. Even the personal ornaments appear to have a religious significance.



Nose or ear ornaments cast in solid gold, 4 in. wide. Antioquia.
FIG. 68.

CATALOGUE OF GOLD COLLECTIONS

A. FROM ANTIOQUIA, COLOMBIA.

Three breastplates of thin beaten gold twenty-two inches across, decorated in repoussé around the borders and across the body, having two lateral bosses, perfect cones, six inches in diameter and four inches high. The remaining plain surfaces are relieved by twelve or fifteen smaller bosses. One of the plates has between the lateral bosses and the upper corners, in repoussé, a very realistic jaguar attacking an anaconda.

Five circular breastplates of beaten gold from ten to thirteen inches in diameter with lateral bosses four inches in diameter and three inches high. The largest one has, in repoussé, two crocodiles meeting at the top and two at the bottom. One has single crocodiles at top and bottom while the three others have bosses instead of animals.

A girdle three feet long and seven inches wide, made up of one hundred and thirty-eight solid gold bars each four inches long and tapering from one-eighth to three-eighths inches in width. The bars are arranged in two bands on three cords strung between gold beads.

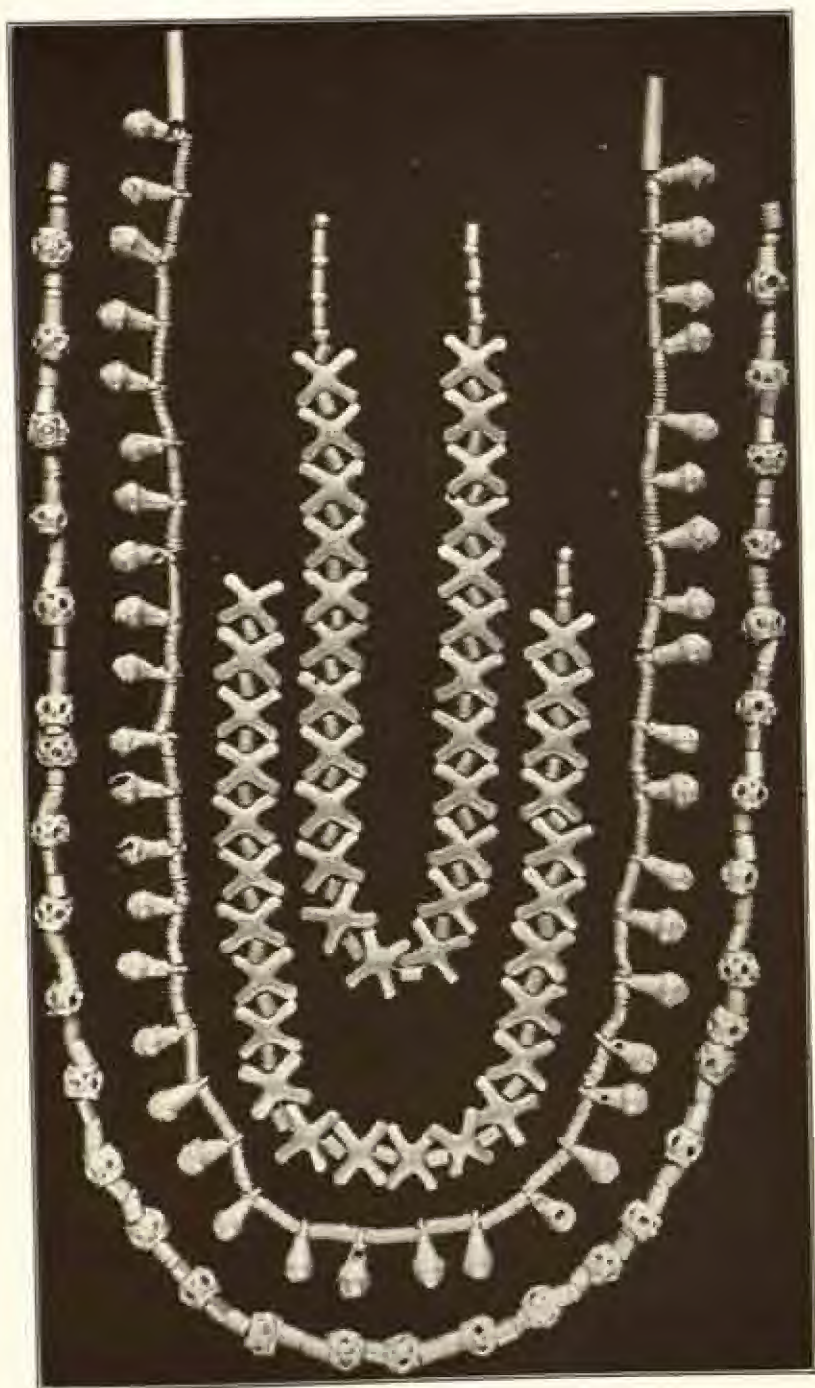
Eight fan-shaped nose-rings cast in solid gold, four and a half inches wide and two inches high, made in finest wire filigree work and decorated along the top with birds' heads. Two show a large per cent of silver alloy.

Six solid staff heads; two are of large birds, one of two birds, one a jaguar whose spots are shown as holes into his hollow body, two are of monkeys wearing hats, seated on four-legged chairs with high backs, holding bowls to their lips. They remind one of the mummies of the Incas seated in chairs around the temple walls.

Four bells in form of handbells two inches high and one in diameter with opening along the side. Three are gold and decorated, one in form of the owl woman. One is copper.

Sixteen solid gold nose or ear ornaments of various sizes from a half to an inch and a half across. The ends are expanded into flat discs.

Nine strings of gold beads; one of forty-one very small bells with fine coiled wire beads between, one of twenty-six bells, one of sixteen larger bells with cylindrical beads between, one of thirty-



Four of the nine strings of gold beads. Antioquia.
FIG. 69.

three filigree beads with plain ones between, one of a hundred and thirty-five very small cylindrical beads and two of twenty-four star-shaped beads each.

Eight plain bracelets made of a solid gold rod, one-eighth inch in diameter.

Ten gold nose ornaments: eight solid rings and two discs.

Twelve discs or bosses of plain gold.

One funnel-shaped ornament three inches high and two and a half in diameter.

Gold arm band three inches broad embossed at both ends.

Helmet of plain gold, in fragments.

Six sheets of very thin beaten gold about sixteen by twenty inches in size, two with repoussé borders. All have perforations across the ends for attachment to garments, house-walls or altars.

B. THE PARIS COLLECTION.

Two female images of pure gold, similar in size, ornamentation and technique; hollow cast, nine inches high, shoulder breadth three inches, hip breadth two and three-quarter inches and depth one inch; each image wears necklace, leg and arm bands, nose rings, earrings and crown. The hands extend forward bearing flowers. They are beautiful specimens and real works of art. Quimbaya.

Two gold discs seven and a half inches in diameter, decorated in repoussé with human face and sun's rays beneath. One plain disc five inches in diameter.

Four great undecorated cuffs, of heavy beaten gold, one pair nine inches long and the other seven, tapering from four inches in diameter at the top to two and a half at the wrist.

Six gold crowns from one to four inches in width, two with large birds standing up in front.

Two symbolic figures seven inches high and four and a half wide, with human-like face and curious winged body ending in a crescent, cast one-eighth inch thick. Chibcha.

A bronze knife or razor five and a half inches long, having a serpent crawling along the top of the blade and a beautiful solid gold stork standing on the end of the handle. It is one of the most interesting specimens.

Eighteen personal charms or amulets in the form of animals, birds, crustacea and anthropomorphs. The best one is a bell monkey

three inches high sitting in a swing of twisted gold rope which ends in serpents' heads. There are three birds, one large flat and the others only one-half inch long; two alligators, one crab, one spider, one eagle, one puma, one flat manlike animal, two frogs and four dogs. Central America.

Five ear ornaments, one pair one and a half inches in diameter with double bird designs in repoussé.

Fourteen nose ornaments; two bars, five rings and seven discs. One coiled serpent.

Seven figures of men from two to three inches high. The best one is holding aloft at arm's length a serpent whose head and tail form a part of his headdress. There are also two solid cast silver men.

Three models of throwing sticks and five pins from four to six inches in length cast in solid gold. One of the sticks shows two finger holes at the base and on the top an eagle whose beak serves for the knob. Another shows the knob lashed on with very fine gold wire. Most interesting ethnological specimens. Three of the pins have birds standing on top. Chibcha.

Three peculiar ornaments six inches long covered with numerous discs and bird-like bangles. One flat key-pad with eight hooks. Chibcha.

Two hollow bracelets three-quarters of an inch in diameter, with the ends fitting together and the edges joined along the inside but not soldered. Very difficult to manufacture.

A fragment of an image representing the mask of a human face, with inlaid headband, eyes and teeth. At each corner of the mouth a turquoise is set representing four teeth. Mexico.

Fourteen hollow gold beads, eight capped cylinders soldered along the joined edges, each having four human faces in repoussé; six ovoid beads with human faces on each side, made in halves and soldered together. Peru.

C. INCA GOLD AND SILVER.

A death mask of thin beaten gold six by eight and a half inches, features in repoussé with diamond-shaped eyes and projecting nose.

Three gold bells; one, the most perfect of all the bells, is a man with dog's head sitting in a swing on the edge of the flat topped bell and holding a double-headed serpent in his mouth; another is a



Staff head in form of a bird. Antioquia.

FIG. 70.

grotesque animal sitting in a hoop of coiled wire which ends in loops on the tops of his ears and the third is a beautiful bell in the form of a very small owl.

Two gold men; one an inch and a quarter high with spiked headdress and the other two and a half inches high, wearing a double wire snake belt and holding snakes' heads in his hands.

Three pairs of gold tweezers, one pair three inches long and the others one inch.

One gold cuff five by seven inches with incised decoration at the top and bottom, two beads and one gold leaf worked in lines and dots.

A gold-headed pencil and three bronze pins.

A perfect silver idol nine inches high, hollow cast, in female form, sharply defined features with high Roman nose, hair parted in the middle and hanging down the back where it is caught with a silver ornament.

Five idols cast in solid silver in male form about three inches high: one has a rattlesnake hanging around his neck, one wears a headdress, girdle, arm and leg bands and carries an image of the sun and a staff of office, one has a duck sitting in his open hand, one wears a bird headdress and carries two large ears of corn as an offering and the last has a double body. There is also a silver deer and a wooden monkey.

A silver plate, three by three and a half inches, bearing an incised design of a conventionalized human form with an animal head and carrying in his hand a wand with a jaguar's head.

D. CENTRAL AMERICAN GOLD.

Three conventionalized gold men; one three inches high standing on the edge of a broad flat pedestal with upturned ends and wearing a headdress like the pedestal but inverted, another two inches high of the same pattern and the third is plain and two inches high.

Three gold bells one inch in diameter and an inch and a half high.

Seven gold frogs; two holding four snakes' heads each in their mouths two small ones of common type and three large ones three by three and a half inches in size carrying snakes in their mouths.

Four gold birds with flat tails and wings, three by two and a half inches in size.

Eleven gold discs from four to six inches in diameter, decorated in lines and repoussé.

E. AZTEC GOLD.

Two filigree rings of gold, one small with little decoration but the other represents the very height of the goldsmith's art. The design shows a man in profile seated in a framework wearing an elaborate headdress and other decorations.

Ten small gold bells, eight of the sleighbell type, one has an animal sitting on top of the bell and one cast in the form of two joined hands with filigree cuffs.

Two men cast in solid gold, one with large quadrangular head-dress is holding out in front of him a small animal in each hand, the other is standing with one hand raised.

A very realistic hollow cast turtle of low grade ore.

A hollow cast eagle's head lip plug one and a half inches long.

F. AZTEC PRECIOUS STONES.

Among the Aztecs, jade, crystal and jet were as highly prized as gold, silver and copper. The bright green jade was considered so precious that its use was restricted to those only of high rank. Beads and necklaces of jade were collected from certain tribes of



Nose rings and ear ornaments, the largest $1\frac{1}{4}$ in. across. Antioquia.

FIG. 71.

Indians as tribute money. In the production of the finer works of art in jade and crystal, points of flint and copper were utilized for graving and drilling. When the cutting was completed emery was employed in rubbing and polishing the surfaces. It is said that Montezuma sent beautiful specimens of crystal and jade by Cortes for the personal use of the Emperor.

Two necklaces of gold and highly polished green jade beads.

One decorated jade bead five inches long by one-half wide and one-quarter, drilled lengthwise.

One jade ear ornament, two birds' heads, six carved heads with headdresses and one elaborately carved human figure of bright green jade seated in a panel with face in profile wearing a large head-dress, ear and neck ornaments and a girdle. All are perforated for suspension.

Six jade squatting human figures from one and a half to three and a half inches high. Perforated for suspension.

One death's head, one cylindrical bead and one lip plug all of perfect crystal.

Six jet lip plugs.

THE OLDEST WRITTEN CODE

IN a volume of SELECTED SUMERIAN AND BABYLONIAN TEXTS published by the University Museum, Henry Frederick Lutz has carefully copied, among many others, a few texts rightly catalogued by Dr. Stephen Langdon as SUMERIAN CODE OF LAWS (Nos. 100, 101, 102 and p. 128).

They are copies from tablets (probably school work) originating from Nippur and turn out to be extracts from a Code of Laws which may be considered as the prototype and source of Hammurabi's Code. Some sentences of the latter (in Babylonian) are a servile translation of the former (in Sumerian).

The following are what I believe the most essential points in the three tablets (Nos. 100 and 101 are duplicates).

I. Three paragraphs concerning land culture.

1. *Should the owner have granted a fallow land to a gardener to be planted as an orchard, if the latter has not entirely completed his work when they share, the fallow part shall fall to the gardener's lot.*

This corresponds to the 61st article of the Code of Hammurabi. In a prior paragraph of the same is stated that after a lapse of five years they shall share equally, the first option being secured to the owner.

2. *Should a man enter another man's orchard and abide in the plantation, he shall pay 10 silver shekels.*

A paragraph perhaps found in the great gap of the Code of Hammurabi, which begins precisely in this section.

3. *Should a man cut down a tree in another man's orchard, he shall pay a half silver mine.*

This paragraph corresponds to the 59th article of the Code of Hammurabi, with only one addition, "without the owner's consent." The order of the paragraphs differ too, and this article is placed before the preceding.

II. Two paragraphs concerning buildings.

1. *A house owner has a right to extend over a neighbouring waste ground provided he has given notice to the owner of the waste*

ground and they agree as to the terms of the rent, and he insures him against any damages done.

2. *Should the owner of a house not knowing how to manage it, let another man undertake it, the latter shall during three years profit by his industry, the owner not being empowered to turn him out.*

These two articles may have existed in the great gap of the Code of Hammurabi which we know contained this very section of laws relating to buildings.

III. Two paragraphs concerning slaves.

1. *Should a man shelter a fugitive slave during a month, he shall give slave for slave, and in case he should not be able to do it, he shall pay 25 silver shekels.*

The Code of Hammurabi, Article 15, deals only with the desertion of the palace slaves and resolves on death penalty as a sanction for the receiver.

2. *Should a slave contest the rights of his master concerning his bondage he shall be convicted anew and sold.*

Article 282 of the Code of Hammurabi provides for the penalty in this case in the cutting of one ear.

IV. Two paragraphs concerning the responsibility of mercenaries.

1. *Should a mercenary driven by fear have neglected to face a danger threatening his master's property, he is not guilty and shall stand before the court that suits him.*

2. *If he was notoriously powerless, he is not guilty, nor is there any ground for a law suit.*

The Code of Hammurabi, Article 266, deals only with cases of open constraint against sheep herding. The shepherd is sworn in and discharged.

V. Five articles relating to family affairs.

1. *Should a man marry a second wife who bears him children, this woman's dowry belongs to her children, but the children of the first and of the second wife share equally the goods of their father.*

This corresponds to the 107th article of the Code of Hammurabi, expressed however in a more dilated form in the Code.

2. *Should there be living children of the wife, the children of the servant shall not share with them the house of the father, but the servant and her children shall be released from slavery.*

Compare Articles 170 and 171 of the Code of Hammurabi.

3. *Should the wife die and the husband marry the servant who bore him children, their condition is changed and they do increase the family.*

This text is truncated and the interpretation doubtful. Nothing of this kind is in the Code of Hammurabi.

4. *If the wife has borne no children and the husband has some children from his relations with another woman, he shall provide for her food and clothing, and the children of the other woman shall be heir to their father, but their mother shall not abide by the husband, so long as the wife is alive.*

Nothing of this kind is in the Code of Hammurabi.

5. *Should the wife be unfaithful, she shall live in a state of seclusion at home, and a second wife may eventually take her place and rank as first.*

Article 129 of the Code of Hammurabi condemns the partners in adultery to death by water. Provision being made for the grant of mercy. In fact the new text does not speak of effective adultery but only—maybe it is an euphemism—of turning the eyes aside.

The text is truncated and our interpretation doubtful.

V. S.

NIPPUR'S GOLD TREASURE

AS the goddess of love Ishtar descended into Hades in quest of her youthful lover Tammuz, she had to divest herself of her queenly attire, her crown, earrings, necklace, breastplate, bracelets and anklets, girdle of precious stones; and when she passed the seventh gate, she was nude. For such is the rule of Hades.

This old Babylonian legend embodies some historical facts so far as jewels are concerned. Nearly all these jewels and a few more are found in a tablet from Nippur dated in the 5th year of the Cassite King Nazimaruttash, about B. C. 1300. The tablet is not complete. There must be an interval of four to five lines between the two portions preserved. The left corner is broken off.

The tablet contains a catalogue of over 125 jewels in gold and precious stones, chalcedony, lapis-lazuli, agate, etc. They rank from caskets all gold, or with stones inlaid, down to necklaces, bracelets, anklets, seal-cylinders in gold mounting, eyes of stone in gold mounting, breastplates, earrings, tablet mould and tongue of gold. They were brought over from Nippur and Dur-Kurigalzu to a third place Ardi-Bêlit, the last two being only parts of the same town of Nippur. The tablet itself does not state under what circumstances the removal was made. But the information supplied by the excavations and the Tell El-Amarna letters, the official correspondence between the Cassite kings of this period and the rulers of Egypt, will help us to realize the importance of this gold treasure.

This was both a temple and royal treasure. It was in fact a well established political rule down from the time of the kings of Ur and before, that the legitimate king is the representative of the god, his *shakkanakku*, entrusted with his seal, acting in his name and disposing of his property and the same jewels mentioned in this record, so characteristic of the Cassites by their form and material, are mentioned again in royal despatches; and some of them have indeed been excavated near the temple, covered with inscriptions which are a sure warrant of the name and piety of the royal donor.

The largest collection of Cassite antiquities, was discovered by Dr. Peters at Nippur in 1890. They were all votive objects in form of discs, sceptre knobs, tablets, axes, rings, seal-cylinders and eyes. They

were presented to the various shrines of the temple: to Enlil, Ninlil, Ninib, Nusku, by the Cassite kings from Kurigalzu down to Kashtiliashu (about B. C. 1400 to 1200). This collection included all sorts of precious material: agate, lapis-lazuli, magnesite, feldspar, ivory, turquoise, malachite, amethyst, gold and porphyry, as well as other materials not yet worked. They were preserved in a wooden box just outside the temple wall. They may have been rescued from the ruins of the temple at a later period, probably in the Parthian time, but they were once undoubtedly part of the sacred treasury. Our present tablet is just a deed of record of such a collection.

Official letters to and from the Cassite kings are full of details concerning gold and stone jewels. They were sent and received as gift and dowry at a time when political relations between Egypt, Babylon and neighbouring countries were strengthened by marriage ties.

Burnaburiash, king of Babylon, complains to Amenophis IV of Egypt: "From the time when thy father and my father established friendship they sent rich gifts to each other, now my brother has sent unto me as a gift two manehs of gold. I would that thou shouldst send me as much gold as thy father sent... or half as much. Why only two manehs? Now the work in the temple is great. I have undertaken it with vigour and I shall perform it thoroughly. Therefore send me much gold... As a gift unto thee I send three manehs of lapis-lazuli."—So Egypt exported gold and received lapis-lazuli. The mother of Amenophis IV, Queen Thuaa, wore lovely earrings of lapis-lazuli and gold.

Later Burnaburiash complains anew, that twenty manehs of gold sent were not full weight when put in the furnace. Among the gifts he sent to a daughter of Amenophis IV who married a prince of Karduniash, there were thrones of precious wood and gold, couches in wood, gold and ivory.

Tushratta, a king of Mitani in Northern Mesopotamia, asks the king of Egypt for a large quantity of gold, both payment for past expenses and gift in return for his daughter whom Amenophis IV had married. Himself sends to his own sister Gilukhipa, wife of the same Amenophis: "gold bracelets, earrings, toilet bowl and a measure of choicest oil."

Akizzi, the governor of Katna wants from Egypt gold to embellish the image of the sun-god.

The same texts mention all sorts of necklaces in gold and precious

stones for men, women and even horses. Not only gold chains or thorny links, but necklaces of lapis-lazuli and gold; gold, lapis and some other stone. One necklace has 70 beads, half of them lapis-lazuli, with a pendant in a gold mounting; another one 20 and 19 beads lapis and gold and a pendant. A horse necklace has 88 stones in gold mounting, 44 beads of gold and a pendant.

Breastplates were beautiful works of gold, silver and ivory.

Seal cylinders mounted in gold caps are a characteristic feature of the Cassite times. Most of the seal impressions on clay tablets show traces of a decorative border cut on the gold of the metal caps.

Kuduráni, superintendent of a store house near Pi-nâri, writes to king Kadamashman Turgu about those "stone eyes" which the jewelers of the temple were polishing.

In the store room of the temple, the safe for keeping treasures, sacrificial gifts and documents were discovered by Haynes in the S. E. wall of the fortified enclosure. It was a cellar 36 feet by $11\frac{1}{2}$ and $8\frac{1}{2}$ deep, with a ledge all round the walls. It dates from King Ur Engur, about B. C. 2300, and covers a smaller and earlier cellar 2 feet below. The store room of the temple of Sippar is frequently mentioned in inscriptions. And the sacred magazine of the earliest rulers of Lagash were both granary and safe for valuable property and offerings.

We cannot expect to find any more valuable property in those treasure-houses. They were the very first things the enemy would look for in case of invasion. King Assurbanipal, when he thoroughly destroyed Susa, boasts that he opened the sacred treasures of gold and silver of their god Shushinak. In Nippur and Lagash the many objects of art gathered in the surroundings of those cellars, bear witness to the process of savage destruction. Babylonian monuments such as the code of Hammurabi, and the stele of Naram-Sin were carried away as spoil into Elam. King Kurigalzu brought back from Susa and presented again to Ninlil in Nippur a little block of lapis-lazuli, dedicated to "Ninni for the life of Dungi of Ur 500 years earlier and stolen later by the Elamites.

Should we try to realize the historical background of our tablet, we must bear in mind the following facts. Nippur was ruined by an Elamite invasion at the time of King Kastiliashu, about B. C. 1250. He is the last king mentioned in that collection of votive objects preserved near the temple down to the time of the Parthian kings. No Cassite tablets have been found in Nippur which antedate Burna-

huriash, about B. C. 1380. He is the best known correspondent of the Egyptian kings, so anxious to secure gold for the temple work, and exchange gifts and jewels. Now the Cassite kings brought a foreign rule in Babylonia, but got only by degrees the control of the whole land. We know that: "King Kurigalzu having conquered the country of the sea, added Babylon and Borsippa unto his country." A sure proof that he did not rule them before. This king did build in Nippur, probably his residence at the time, a palace or fortress, named after him: Dür-Kurigalzu. It was connected with old Nippur—the temple complex—by a stone dam or canal, which passed likewise by Ardi-Bêlit, in which the jewels were stored from the two other places. Kurigalzu and his son Burnaburiash were strong kings, allies and relatives of the kings of Egypt. But soon after them the growing power of Assyria brought trouble in the land. King Assuruballit following up that current matrimonial policy, gave his daughter as a wife unto the son and heir of Burnaburiash. The Cassite resented the intrusion, revolted and killed the prince, which fact brought the Assyrian armies down in Babylonia with the secret aim to extend Assyrian protectorate over this country.

The correctness of this view is confirmed by an Assyrian document of king Adad Nirari, great grandson of Assuruballit and likely contemporary of Nazimaruttash under whose reign our tablet was compiled. The king of Assyria claims for himself and his father the title of priest of Enlil. And we know the political meaning and profits attached to the title. His grandfather not having extended his rule so far south is simply priest of Ashur, fighting the rebellious Cassites. The great grandfather Assuruballit has a vague title of priest of the gods. (Up until today the rule prevails of calling the name of the legitimate king in public prayers.)

The extreme southern limit of that fight for greater Assyria is given by Adad-Nirari as: "from *Lubdi* and *Rapaqu*." And the king claims that he was the restorer of the ruined towns of the Cassites. We know too that the temple tower in Nippur underwent a thorough repairing under King Kadashman—Turgu, the successor of Nazimaruttash. Curiously enough *Lubdi*—the name of a town, or proper name—is mentioned in this tablet along with jewels removed from or out of it.

Whatever was the import of the Assyrian drive in the South, storing new jewels or making sure of the old ones in safe Ardi-Bêlit,

was a good precaution in troubled time of King Nazimaruttash. Moreover, it affords us the pleasure of reviewing this collection of fine jewelry.

TRANSLATION OF THE TEXT.

Gold work from Nippur and Dür-Kurigalzu, [brought] into the town Ardi-Bêlit in the month of Shabat, the 5th year of [King] Nazimaruttash.

1 casket of gold with a cover of lapis-lazuli and a bottom of . . . stone,

2 caskets of gold coating,

1 box of gold with vultures (?) and eagles in . . . stone (inlaid),

1 box of gold the cover of which has 5 eyes of agate inlaid,

5 boxes of gold coating, 14½ shekels¹ in weight,

7 necklaces in form of chain of gold, 11 shekels in weight,

2 necklaces in form of thorns of gold, 14 shekels in weight,

1 necklace in form of thorns, with a pendant . . .

2 bracelets of gold with fruits (?) . . .

.....x.....of gold coating . . . 3 shekels in weight,

2 anklets of gold . . .

2 seal-cylinders of chalcedony (?) . . .

2 seal-cylinders of lapis-lazuli, with gold mounting,

1 seal cylinder of agate with gold mounting,

5 necklaces of large chalcedony stones,

7 eyes of chalcedony stone together with a dainty coat of mail in a gold mounting,

6 eyes of small chalcedony stones, no mounting,

4 eyes of agate with gold mounting,

11 cut (hilt or ring ?) agate stones together with 6 arms . . .

2 breastplates of lapis-lazuli,

2 breastplates of agate,

8 earrings of compact gold,

8 earrings of lapis-lazuli,

1 tablet mould of chalcedony, no mounting,

1 tongue of russet gold,

Total (treasure) from Nippur.

1 casket of russet gold, ½ maneh in weight

2 boxes of russet gold together with one . . . from *Lubdi*, 15 shekels in weight,

¹ The value of the golden shekel is about \$9.10; its weight equals 9 dwts. 2 4-7 grs. Troy. One maneh equals 60 shekels.



Catalogue of gold treasure of Nippur. Dated about 1300 B. C.
FIG. 72.

- 3 boxes of pale gold, 11 shekels in weight,
- 3 necklaces in form of chain of russet gold, 10½ shekels in weight,
- 2 necklaces in form of chain of russet gold, 10 shekels in weight,
- 2 bracelets of russet gold, with a facing in shape of a bull, 17½ shekels in weight,
- 1 anklet of russet gold, 2 shekels in weight,
- Total (treasure) from Dūr-Kurigalzu, from the hands of Shabar.,
- 5 boxes of russet gold coating.,
- 1 bracelet of russet gold coating.,
- 1 anklet of russet gold coating.,
- 11 necklaces of chalcedony, agate, 5..stones.,
- (Total treasure) from il Ninib-rizu.
- (...x...) gold coating.,
- 10 (...)
- Month of Shabat, the 25th day,
- of the 5th year,
- of King Nazimaruttash.

L. L.

ANCIENT PERUVIAN TEXTILES

CONSIDERING the enormous wealth of decorative material to be found in prehistoric Peruvian art it is strange more frequent use has not been made of this interesting and original type of design by the artist, designer and manufacturer.

In the possession of the University Museum are collections of ancient textiles from the Pachacamac cemeteries, and elsewhere in Peru which for richness of color, beauty of design and technical skill are equal to any of the oriental fabrics, and quite out distance our own modern productions.

We know the Peruvian civilization had attained a very high artistic development before the Incas inhabited the country. Therefore in all probability some of our earliest specimens may have been products of the so-called Megalithic peoples.

They were all found in prehistoric graves, many still around the mummies, and the fact that the cemeteries were on the edge of the desert, where rain is practically unknown, accounts for their marvelous preservation.

The most realistic art in ancient Peru, one student of textiles attributes to an older culture called the Chimu, and the Incas at the time of the conquest were still producing very beautiful fabrics, showing they had not lost the traditions of the earlier civilization.

The Peruvian was unusually skilled in manipulating his simple hand loom where the weaver produces the design as the material grows, much in the same manner as the weaving of oriental rugs. In addition to fine cotton and wool cloth we have brocade, embroidery the so-called "double weaving" and tapestry. In tapestry Peru reached its highest development, placing this kind of texture in a class by itself—making the Gobelin and even the Chinese silk tapestry appear coarse and heavy in comparison. Some of the finest pieces contain nearly three hundred weft yarns to the inch and their cleverness in adapting most intricate design and overcoming the technical difficulties of the loom is something that has never been accomplished by any other people—excepting perhaps the makers of the Coptic fabrics from Egypt, dating from the first centuries of the Christian era. In many ways the likeness is indeed remarkable between these two ancient lands, half a world apart.



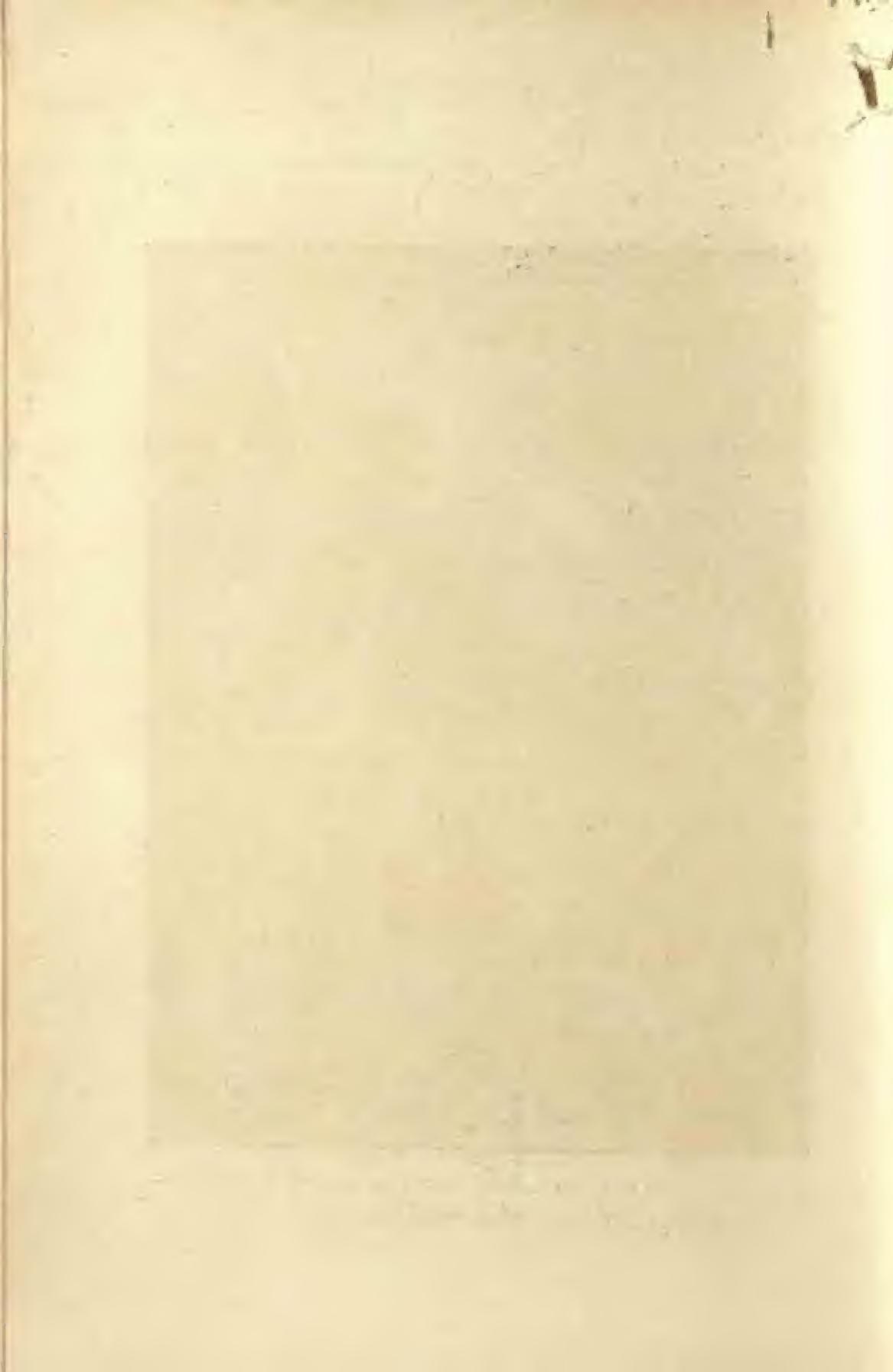
TARESTRY BELT.—THE INTERLOCKED BIRD.

With varicoloured zigzags holding the design together. The zigzag originally was the fin of the fish.

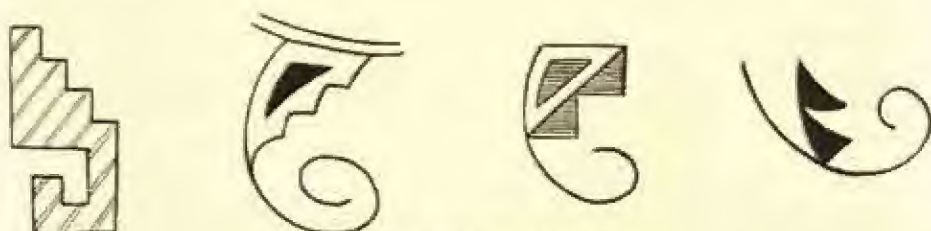




SECTION OF A PIECE OF TAPESTRY, SHOWING THE TENTACLE OF THE CUTTLE FISH.



Like most historic peoples the Peruvians made use of the objects which were familiar to them in their daily life. First we have the realistic forms. Then little by little through repetition and elimination we get a conventionalized or geometric figure which is far removed from its original source of inspiration. Fig. 77 is a good illustration of this, beside being a very clever piece of inverted design representing the tentacle of the cuttle fish. We find the same motive in other forms in embroidery and on pottery.

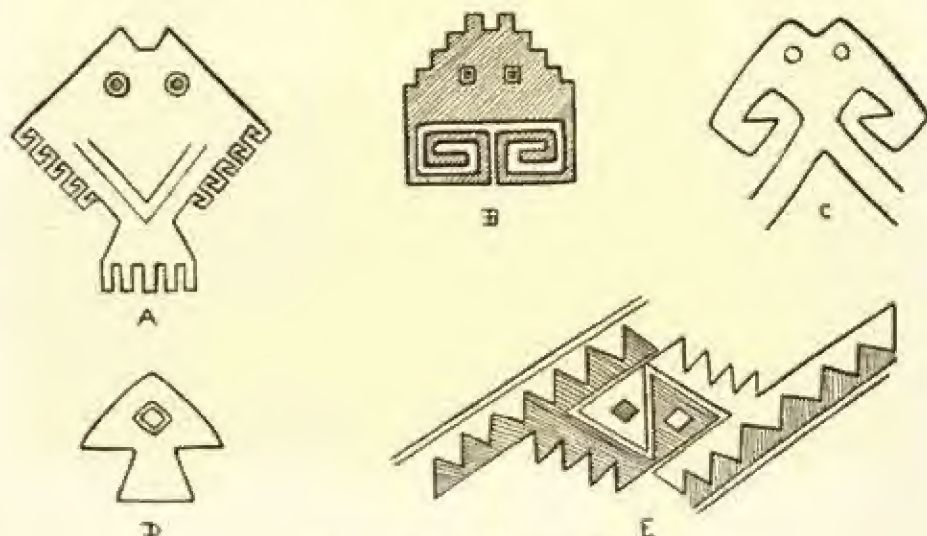


The Tentacle of the Octopus.

FIG. 73.

Notwithstanding the enormous variety of design in these quaint animal, human and geometric forms there are in reality only four or five subjects used, the man, the fish, bird and puma or cat, the same recurring singly or joined in every conceivable combination.

The Peruvians of the coast region worshiped the sea, and the



Different Renderings of the Fish.

FIG. 74.

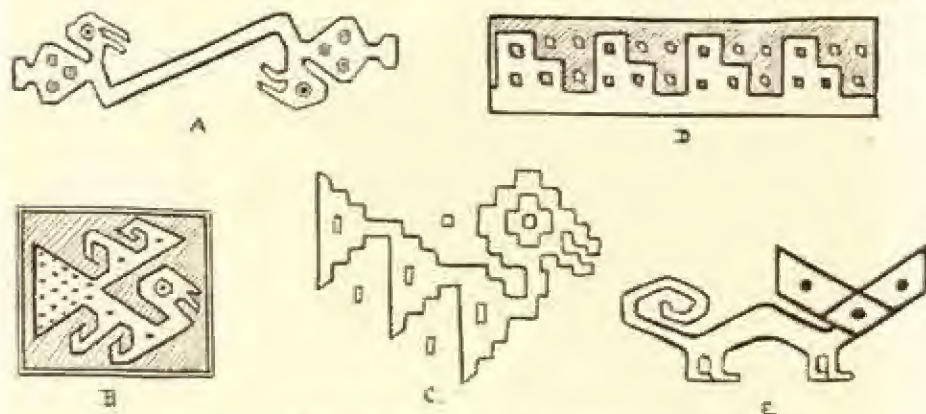
fish being a natural emblem of the sea, we find it with more frequency than any other motive in all their arts.

In the center of Fig. 78 we have a very realistic skate, surrounded by much conventionalized little fishes and fish heads.

The character of the material is of first importance and influences the design. As the difficulties of the loom had to be considered, the tendency for curves to become rectangular is very marked.

Fig. 79 is still another rendering of the fish head in an exquisite piece of lace, a form of art which is left to us by these remarkable people.

The interlocked bird in Plate I is from one of the most beautiful tapestry belts in the collection. The colors are of deep rich



Conventionalized Birds and Puma,
FIG. 75.

tones, the same on both sides; the ends of the yarn have been cut off and carefully tucked in so that it is impossible to tell the face from the reverse.

The bird in Peruvian art does not need much description as it has hardly ever lost its identity. We find it linked with the cat and fish in many forms, but it is always recognizable. The example shown in Fig. 75 A, is joined with the puma head, making a cleverly elongated design to decorate a narrow ribbon. It is repeated the entire length of the material. In the example shown in Fig. 75 B, the entire bird is used to fill up a square. The border of a loin cloth from which this was taken is made up of such squares, each bird of a different color, making it a most effective whole. See also Plate III.

Fig. 75 is interesting as showing the influence of basketry upon textiles. D and E are of course derived from the puma.



PART OF A TAPESTRY GARMENT, WITH CONVENTIONALIZED BIRDS FORMING SQUARES.





PART OF A BROCADED GARMENT, WITH AN ELABORATE TAPESTRY BORDER AND PRINGE. THE BROCADE IS A SOLID DESIGN OF INVERTED PUMA HEADS.





The Pattern.
FIG. 76.



Cleverly inverted design, derived from the tentacle
of the cuttle fish.
FIG. 77.



SECTION OF A LONG TAPESTRY STRIP. INTERESTING VARIATION OF COLOUR IN THE REPEAT OF THE DESIGN.

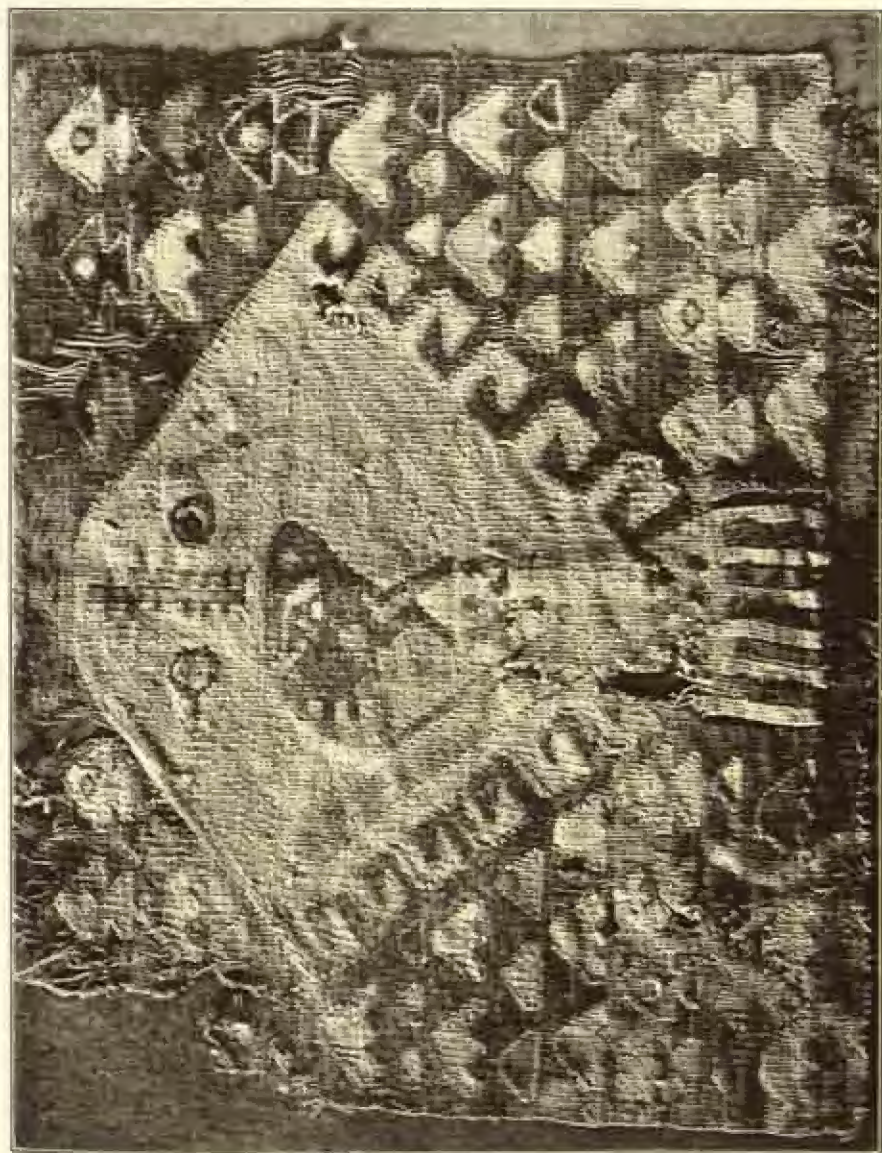




SQUARE OF TAPESTRY, SHOWING A LARGE SKATE WITH A SHARK SWIMMING ACROSS THE CENTER. SMALL FISHES AND BIRDS IN THE CORNERS WITH THE OCTOPUS TENTACLE FOR THE BORDER MOTIVE.

The open work to intensify the design is unusually large in this specimen and is carried through the entire design as may be seen in the border.





The skate, surrounded by little fishes.

FIG. 78.

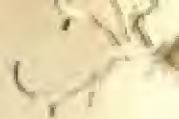


Ancient Peruvian Lace—showing the "fish head" motive.

FIG. 79.



DECORATIVE PANEL IN TAPESTRY, SHOWING THREE HUMAN FIGURES. A GOOD EXAMPLE OF THE DROP STITCH, LEAVING OPENINGS IN THE WEAVE TO ACCENTUATE THE DESIGN.





TAPESTRY BAND FROM A GARMENT WITH HIGHLY CONVENTIONALIZED HUMAN FIGURES.
 Three small heads crowned with feathers, probably representing deities, are shown at the top.
 The border is the inverted entablature.





A TAPESTRY BAG WITH WARRIOR DESIGN, FOR HOLDING OFFERINGS TO THE DEAD,
USUALLY ATTACHED TO THE MUMMY BUNDLE.



The greatest care and skill was perhaps expended upon the human figure as a motive, and upon the mythological characters. The designs in these are too ornate to be described minutely and must be seen in order that the wonderful variety of color and symbolism they portray may be appreciated.

As the ancient Peruvians have left us no literature it is through the wealth of their decorative arts that we realize the high degree of their civilization. And all this is purely American, showing no trace of outside influence. We can with profit go to these older Americans for our suggestions and inspiration.

E. E. B.

THE MUSEUM: ITS RELATION TO MODERN DESIGN

THE mission of any great museum includes among many activities two that are related to my present purpose. First to adequately and fittingly house the treasures in its keeping and second to give out in every possible way, the message that may exist in any of its possessions whatever their nature or kind. The University Museum recognizes both of these principles and is prepared to do its duty in the second part as well as in the first. If its present policy is carried out it should become distinguished in its service to the community at large, to the students who come to study within its walls and to the specialist who may need the specific help of curator or docent.

It is of the second mentioned unit in this group, the student, that I wish to speak. He is, perhaps the most vital factor in the giving out of the message content of the museum, for he is the future artist, architect or designer as the case may be. As such, he becomes, through the medium of his own creation, a most potent disseminator of the wealth of information the museum holds. In his work he transmits the impressions of his museum contacts and the knowledge he has gained therefrom. This work in due time passes into the hands of the manufacturer, who in his turn reproduces the design in the form of his particular product and this rug, textile or ceramic, whatever it may be, eventually reaches the buying public. Thus in this practical result we have a concrete example of museum influence, which reaches a large and consequential audience. The responsibility is however great at any stage of the way in this distribution of worthwhile design, first that of the museum to the designer, then of the designer to the manufacturer and finally of the latter to the public at large. In the last analysis the manufacturer becomes the arbiter and it is distinctly his mission to choose wisely and with constructive judgment as to the designs he is to give out to the world, embodied in his product. Let it be said that this is precisely what our great manufacturers are doing, with the result that in many lines of textile manufacture the modern product equals the finest produced

in any age and in some instances is said to exceed all previous effort. This is but a reflex of this wisdom on the part of the manufacturers to send their skilled designers and technicians to the museums to study the finest work of all ages in their particular line. This designer is our student in advanced guise, who is already familiar with the treasures the museum offers for his study and who has found out that his own imagination and technical knowledge take fire more rapidly when kindled by museum opportunities. The European designers knowing perhaps more certainly than we, that all art is related with that which has preceded it, have never hesitated to make full use of their great museum collections. Each age and time has laid its particular stone upon the foundation we know as beauty and each stone has had its value in the structure; absurd it is to try to sweep aside this slow-built creation, to dismiss from consideration this binding together of all artistic endeavor, to return to a simple condition where civilization has not entered and left its mark, and yet there have been many recent attempts to do so. These are responsible for the "bad" art (if such a term is not a contradiction in itself) which from time to time has descended upon us. Such departures will not be made when such a cultural campaign as is now being waged by museum, designer and manufacturer, reaches the full climax of its capacity. No one really yearns to live in the midst of monstrosities, but many will involuntarily do so if they are not properly guided in the matter of selection, and this is automatically controlled if the manufacturer presents a really fine group of textiles, furniture or ceramics to choose from, so that no really bad choice is possible. Co-operation at every stage of the process must inevitably bring about this desired result.

A particular instance may be cited in a group of young girls, all students of the Philadelphia School of Design for Women in the class of Costume Design and Illustration, and their unique work done at the University Museum last year. This group will be interesting because the nature of their work may seem entirely removed from the museum. These students came to the Museum with a definite problem; their instructor had told them to design a gown, the inspiration for color and line for the garment to be obtained from something in the Museum's varied collections. They were told to explore the place and with its customary interest, the Museum placed every resource at hand. Though this was the first experience of the class, but one often repeated, the results in many instances



Bôdhisattva, source of line inspiration
for Plate X.



HOUSE GOWN: COLOR AND LINE DERIVED FROM
MUSEUM COLLECTIONS.

were charming and their inspiration in several cases was drawn from sources supposedly requiring sophisticated appreciation. It is highly gratifying to a teacher when a first-year student produces as creditable a design as that of Miss Bux (Plate X), who found in the Chinese stone statue of a Bôdhisattva, lines that were admirably suited to the design of a tea-gown and who adapted the same for her design, using as a color scheme the color notes found in a particularly lovely bit of Roman glass. Miss Binder found a similar source of inspiration as will be seen in the reproduction of her design, shown in Plate XI. At later visits, Greek vases furnished ideas both in line and color for smocks and tunics, and Chinese porcelains and enamels gave rich suggestion for color scheme and ornament for many a gown. A great source of delight and a veritable mine of suggestions was found in the group of Peruvian textiles in which the Museum is particularly rich. A design by Miss Ashton (Plate XIII), is here reproduced to show what an agreeable use is made of color and applied design as derived from one of the Coptic textiles. The Coptic textiles proved to be a source of pleasure to many of the girls who were interested in creating designs that involved the use of embroidery. A fashionable filet crochet sweater was derived from the pattern and weave of one Peruvian textile and the Museum, and all museums, became a new thing to many of the girls, because of this simple investigation which showed how the arts and crafts of yesterday might be linked with the dress and occupations of to-day.

It would have been perfectly possible to take this class and put them down in front of a group of costumes with instructions to derive their designs therefrom; this is a stereotyped method and entirely valuable at certain stages of the student's development, but working in the more synthetic way the student contracts the habit of going about the museum with eyes and mind open to all influences instead of having a distinct bias towards an interest in one particular thing. The resulting training is of course of wider art value and education than it could possibly be otherwise. It may be interesting to note in passing that some of this same group of girls are to-day designing for leading tailors and modistes, for leaders of society whose gowns are particularly noteworthy; others are illustrating modern costume for the daily press and magazines and all are doing highly creditable work.

The better known class of designer, the designers of silks, wall



Bodhisattva: Wei Dynasty source of
line inspiration for Plate XI.



EVENING GOWN: COLOR AND LINE DERIVED FROM
MUSEUM COLLECTIONS.



AFTERNOON GOWN: COLOR AND ORNAMENTATION DERIVED FROM
CHINESE PORCELAIN IN THE MUSEUM.



STREET COSTUME FOR SUMMER: COLOR AND
EMBROIDERY DERIVED FROM A COPTIC
TEXTILE IN THE MUSEUM.

paper, rugs, textiles for decorative purposes such as cretonnes, brocades, chintzes, lace curtains, of such utilitarian products as linoleum and oil cloth, is much more in the public eye because his result is ever with us in its many guises. To him the museum offers a very fertile field as almost every piece of textile or ceramic offers a suggestion. Accompanying this article are the photographs of suggestions for designs for printed foulards, which were derived from some of the blue and white Chinese porcelains and a Ming specimen, all possessions of the Museum. It will be noted that the design is not copied precisely as seen upon the porcelain but adapted so as to better suit its use upon the surface of silk, as a piece of feminine apparel. The taste of the designer and his power of selection must always come into play in such adaptations, for he must preserve the distinctive character of the motif and at the same time make it appropriate for the new use. Often he changes the size of a motif, reduces a color value and exercises his artistic censorship generally. Intelligent selection of this sort produces a result which successfully refutes the theory that designs for textiles should always be derived from textiles, that those for ceramics should have their origin in kind and so on. One of the designs reproduced herewith (Plate XVI), includes a suggestion for a glazed chintz or a drapery silk for rather delicate use. This is almost a literal translation of the ornament upon a Rhodian plate. In the original the colors, red, blue and green, were very strong and rich while in the design for the chintz they appear very much attenuated and the motif itself appears reduced in size to better suit the new purpose of the design. This same Rhodian ware offers to manufacturers of household china, a stimulating color scheme for use in breakfast sets and the floral motifs of the same, especially the Rhodian lily, lend an air of grace that is very pleasing. Other potteries, Sultanabad, Rakka and Rhages ware offer the most beautiful ideas for color as well as ornament which would be applicable in a hundred ways to textiles and ceramics. There is a Chinese lacquer screen which has become a veritable Mecca for students and designers because of its seemingly inexhaustible fund of suggestion. It is also very interesting to think that the rich color of a band of porcupine quill embroidery may one day appear in the design of a silken ribbon quite as beautiful in pattern and color as an oriental fabric, but wholly indigenous to the continent of North America. The designs of the North American Indian, in his various locations and varied craft, are studied by the student of



Ancient Peruvian Lace.

FIG. 80.



MOTIF OF DESIGN FOR PRINTED FOULARD, DERIVED FROM A CHINESE
PORCELAIN IN THE MUSEUM.



Ancient Peruvian cotton garment.

FIG. 81.

design for their abstract quality, and the simplicity and beauty of the shape and designs of the Conebo pottery of South America also furnish much inspiration. The list could go on indefinitely with a thousand variations, for the Museum has many treasures, each giving out a special message. It is the desire of the Museum that these messages shall reach their special sphere of influence. No timid student need hesitate to ask for information or help for there is at his service a docent whose message it is to explain away his perplexities and to set before him the resources of the Museum's collections. The Museum is in no way more truly at the service of the public than in this constructive work of guiding and aiding the student, designer, or craftsman who comes to the Museum for help. He most certainly finds that which he seeks and as a consequence, in his work endows us with a translation of the beauty that once was Egypt's, let us say, and gives us in terms strictly modern and his own, our place in the great history of art production. He thereby makes our modern design a link between that of the ages which are passed and the future which is to come.

L. H.



MOTIF OF DESIGN FOR PRINTED FOULARD, DERIVED FROM A MING ENAMEL IN THE MUSEUM.





DESIGN FOR GLAZED CHINTZ DERIVED FROM RHODIAN WARE
IN THE MUSEUM.



MOTIF FOR A DESIGN FOR DRAPERY SILK DERIVED FROM A PERSIAN VELVET IN THE MUSEUM.

NOTES

Mr. Eldridge R. Johnson and Mr. Edward B. Robinette have been elected to the Board of Managers of the Museum.

Dr. Leon Legrain has been elected Curator of the Babylonian Section. Dr. Legrain is the author of several books and essays on Babylonian subjects and of works published under the auspices of the *École des Hautes Études* containing results of his studies in this field of research. He was appointed professor in the Catholic University of Paris, and during the war he served with the rank of lieutenant as interpreter for the British Expeditionary Forces in France.

Gifts.

- Mrs. M. T. Johnson, four ethnological specimens from the Philippine Islands.
- Miss Frances Comly, a palm leaf book from Southern India.
- Miss Selina B. McIlhenny, in memory of her brother, Mr. James McIlhenny, a collection of Indian baskets and pottery.
- Mr. Jos. Lapsley Wilson, a group of five Polynesian clubs.
- Mr. Charles Grafty, a suit of Japanese armour.
- Mrs. Franklin Adams, an antique gold ornament from Colombia.
- Mrs. A. B. Weimer, a North American ethnological collection.
- Dr. John Marshall, Indian bow and arrows.
- Mrs. Fannie Caywood, in memory of her son, Mr. Ellery S. Caywood, an ethnological collection from Africa.
- Mr. A. J. County, six American bank notes of 1827, 1856, 1859, 1862, 1863 and 1864.
- Mr. Eldridge R. Johnson, a XIII Century Koran.
- Dr. M. B. Kirkpatrick, a collection of costumes from Northern Burma.

Purchases.

- An antique gold collection from South America acquired in Paris during the summer of 1919.
- Another collection of South American Indian gold recently excavated in a mound in Central Colombia.

An American Indian wampum treaty belt.
A Bali Island sword.
Three Persian tile wall panels.
An Arabic mosaic pavement with fountain.
An Arabic carved and inlaid portal with marble wall border.
An Arabic Koran.

On Sunday afternoons during March illustrated lectures were provided in the Museum Auditorium. These lectures were intended to be a further development of the educational work of the Museum. They were designed to keep the public in touch with what the Museum is doing in various fields of exploration and to show the relationship between the activities of the Museum and the broadest interpretations of history, of art and of science. The first of these Sunday afternoon lectures was given on March 7th by the Director who spoke on Egypt in ancient and modern times.

The lectures for the school children of the City were resumed on March 17th and were continued until May 21st.

A new exhibition has been installed in the southeast room which has been assigned to the Section of Ethnology. In this room Mr. Hall has arranged selected groups of objects from the collections of Equatorial Africa, and from the collections of Polynesia and Melanesia. The particular purpose of this exhibition is to show the arts of the primitive peoples occupying these several regions, especially in the arts of sculpture, weaving, wood carving and metalwork.

On Monday afternoon, the 26th of April, the President and Board of Managers received a number of invited guests at a Private View of the recently acquired South American Gold Treasure. On the following day the collection was opened to the public.

Mr. Clarence S. Fisher, Curator of the Egyptian Section and Leader of the Eckley B. Coxe, Jr. Expedition to Egypt, returned to the Museum early in June by way of Trieste and London. Mr. Ashton Sanborn, Assistant Curator of the Egyptian Section, also returned from Egypt early in June on a steamer direct from Alexandria to Boston, bringing with him a part of the objects excavated at Denderah and Memphis.

THE MUSEUM JOURNAL

The following persons have been elected members of the Museum.

Life Members: Mr. Percival E. Foerderer, Mr. Gideon Boericke.

Fellowship Members: Mrs. William J. Eavenson, Mr. Charles K. Haddon.

Annual Members: Miss Katherine Hutchinson, Mr. Howell Lloyd, Mr. Thomas K. Ober, Jr., Mrs. William A. Dick, Mr. Edward H. Bonsall, Mr. Robert M. Coyle, Mr. Charles E. Hires, William Penn Charter School.

In order that The University Museum may give appropriate recognition to the substantial gifts which have been already received, and which will hereafter be donated or bequeathed for the development of its resources and the extension of its usefulness, the Board of Managers have adopted a modification in the classes of membership, and have resolved that the names of the donors of aggregate sums of \$25,000 and upwards, in cash, securities, or property shall be inscribed upon a suitable tablet or tablets, to be properly displayed in the Museum. The revised classes of membership will be found on page 2 of the cover.

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BASKETWORK FROM A CLIFF DWELLING. THE SO CALLED CLIFF DWELLER'S CRADLE

THE CONTENTS

DR. LEON LEGRAIN, Curator of the Babylonian Section of the University Museum, while assembling the more important of the unpublished and unidentified historical documents among the many thousand tablets excavated at Nippur, has brought to light two remarkable documents.

The first of these is a complete document with one of the earliest portraits in existence. The other is a chronological list of kings. In the case of the first a great deal of interest attaches to the fact that the portrait upon it can be identified by means of the inscription and it derives additional interest from the fact that the piece of clay upon which this portrait is impressed was used for sealing a package and upon it is written the name of the consignee, a man with the title of banker. The age of this interesting document is about one hundred years before the time of Abraham, and the King whose portrait we see upon it reigned at Ur of the Chaldees, Abraham's City.

Dr. Legrain is engaged in translating a number of historical documents in the Babylonian collection with a view to forming a volume of texts which will comprise much new material for the reconstruction of the ancient history of Babylonia. Though many of these texts are mere fragments, the way in which these fragments fill up gaps and supplement or confirm each other is often very striking.

Dr. William Curtis Farabee, Curator of the American Section, describes the cradles of the American Indians, together with what is probably the most remarkable piece of basketry in existence. This has been called a cradle or baby carrier, but its use is absolutely unknown. In addition to its unique character it is one of the most ancient, if not absolutely the most ancient piece of basketry in America, representing the oldest surviving manifestation of that art on this Continent. It was made by people now extinct or whose particular culture and method of life belong certainly to a period long before the arrival of Europeans, a people or culture of which there were no surviving representatives at the time of the Discovery. This piece of ancient craftsmanship, so miraculously preserved from an unknown antiquity, was first seen at the St. Louis World's Fair

in 1904 by the Director of the Museum, who followed it up till 1908 when it was bought for the University Museum. The two colored plates XVIII and XIX show very faithfully this remarkable object in its natural colours.

Many of the photographs used to illustrate Dr. Farabee's article are taken by permission from the great work on the North American Indian by Edward S. Curtis. Although our reproductions are clear enough and serve admirably the purpose we have in view, it is necessary to have access to the original work in which the plates are made by the photogravure process on heavy Japan paper, to realize the beauty of these pictures. Curtis' NORTH AMERICAN INDIAN is by far the most monumental work of its kind that has ever been attempted. It represents the entire life work of its author whose continued labours in the field promise the fulfilment of his ambitious plan of making a complete record, photographic and descriptive, of all the living tribes of Indians within the United States. The first volume which appeared in 1907 with a Foreword by President Roosevelt set a standard that has been sustained in all of the ten volumes that have since appeared. The Library of the University Museum is fortunate enough to possess a copy of this invaluable work through the generosity of the late President, Mr. Eckley B. Coxe, Junior. It is a work that one would have a right to expect to find in any Public Library or Museum.

For another set of illustrations we are indebted to Mr. Rodman Wanamaker for permission to use photographs made by Dr. Joseph K. Dixon, Director of the Rodman Wanamaker Expedition, which did so much to establish for the Indian a proper relation to the modern conditions and institutions of the country and to make the Indian communities in the West better understood in both official and unofficial quarters in the United States. Dr. Dixon's photographs are among the best pictures of Indian life that has been produced by the camera.

The opening of an exhibition of American Indian basketry in January will give the people of this City an opportunity of seeing one of the largest, most varied and distinctive collections of the art of basketry that is to be found anywhere. This exhibition will represent the characteristic productions of all of the tribes north of

Mexico. The richness and variety of decorative effect that unfolds itself in this exhibition will be a revelation to many who are unaware of what a charming and graceful artistry was developed in connection with this useful industry of basket making.

Mr. H. U. Hall, Assistant Curator of the Section of General Ethnology, continues his studies of primitive art with an article on the wood carvings and face carvings of the Maoris.

It was when Captain Cook came upon New Zealand in 1779 that Europeans had their first contact with the natives of these southern islands and in *COOK'S VOYAGES* we read the first description of that remarkable people the Maoris. Some of the objects obtained from them by Captain Cook are in the Museum's collection together with other specimens of the same handiwork obtained by subsequent navigators. What struck the discoverers and early explorers most in the appearance of the Maoris was their extraordinary carved faces in which symmetrical lines, cut deep into the skin and filled in with colouring matter, accentuated their features and added great vigour to their natural facial expression. The navigators recorded also their admiration for the wood carvings of the Maoris, of which museums today strive to possess a few examples, for they are among the rarest art objects in the world. In *COOK'S VOYAGES* we read also of the surprise of the visitors at the cannibal habits of the Maoris. The tribes made war on each other as an economic measure. The men were trained in the art of war and in the use of the long wooden sword and the club. Warfare was a recognized institution which determined to a large extent the relations of the tribes with each other. Its purpose was to supply meat and it had the further effect of preventing the evils of overpopulation. It had also an element of sport, for all sides took equal chances according to the rules of the game and each warrior had the satisfaction of knowing that if he fell in battle he would furnish provision for a family or for a whole tribe. The custom was a not unnatural development of organized society in an island like New Zealand that has neither game animals nor domestic animals. That a vigorous artistic impulse, accompanied by active cultivation of the arts, should have asserted itself amid these economic conditions is nothing peculiar, though it is a recognized fact that the art of the Maoris is of an exceptional nature. Tribal history was recited in public. Epic poetry had taken its place in the intellectual accomplishments

of tribal poets. Weaving from native flax was in a high state of development. The working of jade was a native industry and most distinctive of all, wood carving was elevated into an honored profession. The artist occupied a conspicuous place among his tribesmen and it is interesting that although his profession obtained recognition similar to that of a cult, tribal sentiment compelled him to follow traditional themes and to adhere to approved methods of treatment. It is clear that ancient song and legend, celebrating heroic ancestral exploits; a deep reverence for the past and a pride in the prowess of ancient heroes and in the performance of older days, inspired the artist in his work and assured him of the general applause. Mr. Hall's article throws a lot of light on the qualities of Maori art and on the impulses that lay back of it. It is an art that is extinct to-day. Meantime many of the Maoris have adopted European civilization in its entirety and are among the most intelligent and respected of New Zealand's present population, enjoying full rights and privileges under the Dominion government.

The new exhibition of the primitive arts of Africa and the South Pacific that will be opened at the Museum in January and which will contain some of the rarest examples known, will be at once a tribute to the unheralded artists of those two regions who wrought so masterfully for the love of their work, and a source of inspiration for our modern artists and designers.

Dr. Stephen B. Luce Assistant Curator of the Mediterranean Section calls attention to a potter's wheel, the earliest form known, in the Cretan collection of the Museum. In the Mediterranean Section may be seen this potter's wheel together with many examples of the pottery that was made with the aid of this form of apparatus in ancient Crete about 1500 before Christ.

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RECONSTRUCTING ANCIENT HISTORY

I

PORTRAIT OF A KING WHO REIGNED 4130 YEARS AGO

IBI-SIN, the last king of Ur, began to reign in 2210 B. C. The only portrait of him is one stamped on a lump of clay, taken from the excavations at Nippur in Babylonia and preserved in the University Museum.

Other examples of the discovery during the last twenty years of portraits of ancient kings of Babylonia are as follows, the portrait of King Hammurabi (2000 B. C.) on his famous stela found at Susa; the statue of Gudea, Patesi of Lagash (2350 B. C.) and the relief of Naram-Sin (2600 B. C.) on his stela of victory. All of these portraits are in the Louvre.

The newly found portrait of King Ibi-Sin in the collections of the University Museum is unique in several respects. The lump of clay on which it appears was evidently used to seal a package or receptacle of some kind, as sealing wax is used today. The clay is black in colour; on the underside are seen the imbedded marks made by the knotted strings by which the sealed packet was bound; on the upper surface, on each side, is the impression, very sharp and distinct, of a Babylonian seal cylinder. Between these two seal impressions are two lines of cuneiform writing. On the seal itself is an inscription from which we learn that the seal used was that of the High Priest of the god Enlil, whose name was Sag-Nannar-Zu. We learn further that this seal was a present to the High Priest from Ibi-Sin, King of Ur.

The inscription that is written between the seal impressions gives the name SHULPAE, BANKER, SON OF ERINDAN. This may have been the address of the parcel, or perhaps it was Shulpae



Portrait of Ili-Sin, King of Ur, from a clay seal impression in the University Museum enlarged 6 times. See Fig. 83.

FIG. 82.

the banker himself who sealed the package to prevent its unauthorized opening. We possess some other records of this same banker. His quality of agent or banker is of special interest.

The fact that the seal used in closing the package was a gift from the king is an unusual and important feature, which, together with the scene engraved on the seal, makes a unique document in which we may look confidently for a portrait of Ibi-Sin himself, the deified king of Ur, the last of his dynasty. On the seal cylinders of the Ur school, the special feature is a seated personage wearing a turban. The identity or quality of this personage has remained a matter of doubt. Whether it was the moon god Sin or a deified king was not clear. In the new example the question appears to solve itself.

A seal cylinder cut by order of the king as a gift for his servant, the priest of Enlil (ARAD-DA-NI-IR, IN-NA-BA), is a favour unheard of before the days of the King Ibi-Sin. All other royal cylinders bear witness to the loyalty of the high officers, servants of the King, with the simple words: ARAD-ZU, "thy servant." Whether this special record of the royal gift means a strengthening of the king's authority is doubtful. Ibi-Sin's name portended evil. Under his reign the scepter passed from Ur to Isin. Was this a last attempt to remind independent patesis or viceroys of their submission to the central power? We know that the high intendant in Lagash, ARAD-NANNAR, received a seal with the same mention (ARAD-DA-NI-IR, IN-NA-BA). This ARAD-NANNAR was not a new name. Under the preceding king of Ur, GIMIL-SIN, he occupied the same high position in Lagash. The name of his father was UR-SHULPAE, a name identical with that of our actual banker. Could it be the same man? The name is the same but the title is different, for in this instance he is not described as a banker, but as a high officer (SUKKAL-MAH) like his son Arad-Nannar. Whether or not he could be acting at times in this capacity and at other times as a banker remains to be proved. In any case we find that in the sixth year of King Gimil-Sin, Ur-Shulpae, the banker (damgaru is the word for banker) was acting as trustee for the custodians of the temple of the deified king of Ur. Temples of the kings Dungi, Bur-Sin and Gimil-Sin were discovered both at Lagash and at Nippur. The close relationship between the central power of the king and his representatives in neighbouring towns was exemplified by the use of seals with the name and full title of the king together with the name and rank of his local official.



Clay sealing with seal impression, enlarged 24 times.

FIG. 33.

An examination of the seal impression in the Museum, the subject of this article, will show that the scene represented conveys the same idea as the inscription which records the gift. Undoubtedly it represents the king Ibi-Sin in the act of making a gift to the High Priest of Enlil. Among the productions of the Ur school of engravers this seal is one of the simplest of a class representing the introduction of a person to a seated king or deity, or a scene of adoration. Some of the details however set it apart from all other known examples. Among these details is the absence of the usual beard from the seated figure of the king. The seal is a masterpiece of the engraver's art. Only the best lapidary in the Royal City could cut a seal of such refinement and perfection. The whole design, including the minute inscription, had to be cut in a hard material like onyx, agate or lapis lazuli, used for making seals in ancient Babylonia. The illustration on page 000, showing one side of the lump of clay, is two and a quarter times larger than the original, so that the seal is magnified to that extent.

The engraving shows a scene in the classical style of Ur. Two personages are represented; the servant or official standing in front of the seated and deified king and looking him straight in the eyes. The king, or god, for such in fact he is, holds up gracefully a small twohandled cup or vase. There is a smile lurking on both faces. The meaning is clear, for, up to the present day in the East, to look at somebody is a favour, to avert the face is a mark of disgrace. In the picture the servant stands with clasped hands before his seated master. The little vase filled with precious ointment may be symbolic of the offering received or of the favour granted by the god.

On other examples, where similar scenes are represented, there is an intermediary protecting deity who leads the worshipper by the hand, each lifting his free hand as a sign of adoration. Sometimes there may be a nude attendant or two and stars, crescent moon or other symbols. In contrast to these more elaborate scenes the present engraving attains nearly a Greek simplicity.

Such scenes of adoration existed before the time of the kings of Ur and survived them. The simple fringed garment of the servant, the high flounced mantle of the god belong to a long Sumerian tradition. The last rich frilled mantle, woven to imitate the locks of a sheep's fleece and identified with the Greek mantle *καυράκης*, by L. Heuzey, was reserved to gods and kings worshipped as gods at that time.

The low seat covered with three rows of the same fringed woolen cloth is a characteristic feature of all cylinders cut in Ur and of those that followed the Ur school. In connection with the turban, the new headdress of the gods, it forms a landmark in the field of Babylonian art and history. In the days of the old and down to the last Chaldaean empire, a high conical headdress adorned with several pairs of horns, was the proper dress and crown of the gods. Very archaic cylinder impressions represent gods and goddesses bare-headed or with long hanging hair. The turban is a human headdress from the time of Gudea, the patesi of Lagash, down to Hammurabi. Could it be at the same time a headdress of the gods? How could history account for such a change in religious tradition? We know that King Hammurabi belonged to the new race from the West, the Amurru, and that long before him, many strangers from the same western region, the Martu, were established in Babylonia. At the time of the first dynasty of Babylon new figures of gods appear on the seal cylinders by the side of the old ones. They are standing up armed with mace, dressed in a short garment reaching to the knees and wearing the turban. We have to look upon them as so many figures of the god Martu so long as they were not identified with Adad, Ramman, Ninib or Nergal.

The city of Ur lies on the western limits of the Babylonian plain. But did the kings reigning in Ur from Ur-Engur, who founded the dynasty, down to Ibi-Sin who ruined it, belong to the Sumerian or Martu-Ammuru race? What was their position of deified gods beside the old Moon god Sin, worshipped in Ur? Can we imagine the old moon god wearing the turban, which would be a Sumerian headdress? Gudea was a Sumerian and wore that headdress. Was the new Martu style forced upon the Moon god at the time when the kings of Ur were worshipped as gods and probably identified with him?

It is too early to give a positive answer to all these questions. Whatever was the racial origin of the turban, once a human headdress, it became also a divine headdress. That custom prevailed at the time of the king of Ur and in their own capital. The seated gods wearing turbans may represent the deified kings and also Sin, the patron god. Soon after the dynasty of Ur they certainly represent Sin, as well as some more western gods at the time of the first dynasty of Babylon.

Strong literary tradition speaks of the horns of Sin, which may

be simply the symbol of the crescent moon, and of his long dark lapis lazuli beard. All cylinders and seal impressions of the school of Ur and later, represent the seated god wearing the turban and with a long beard hanging on his breast. Our clay relief is the only known example where the seated god is beardless. It cannot be a goddess. We have no examples of female figures wearing the turban and the complete statue of Gudea is the standard evidence of an entirely shaven man wearing the turban. The worshipper of our relief has the same shaven head, and even the same gesture of clasped hands and the same fringed mantle, as Gudea in front of his god. It will be an easy step to identify him with the high priest of Enlil in Nippur. Last of all, the beardless king god, so near to humanity, is not entirely shaven as befits liturgical cleanliness. Just a lock of hair is playing on the forehead and on the neck. The large set eyes, the high cheek bones, the curved nose, the thin lips, the firm and round chin, complete an interesting attempt to portray King Ibi-Sin the last king of Ur, with a necklace and arm band as becomes his majesty.

The inscription on the seal reads as follows:

<i>^dI-bi ^dSin</i>	to Sag <i>^dNannar-en</i>
powerful hero	priest of Enlil
King of Ur	his servant
King of the four regions, has given it	

The cuneiform inscription on the clay reads:

Ur^d Shul-pa-e-damgar
son of *Erin-da-an*

II

A NEW LIST OF KINGS WHO REIGNED FROM 3500 TO 3000 B. C.

Chronology is the framework of history. The names of the kings and the length of their reigns, the relation of father and son, the dynasty to which they belonged and the city which became their capital, the total number of kings and years of one particular dynasty and, best of all, fully developed lists of succeeding dynasties, are a leading light in the obscure path of the student of ancient history. Anything bearing on these subjects is a most valuable document for



Cat. No. 14720

Fragment of a chronological tablet or list of Kings written at Nippur in Babylonia about 2200 B. C. in the ancient Sumerian language. The names of the Kings on this tablet fill a gap of 500 years in our historical knowledge of ancient Babylonia. Obverse.

FIG. 84.

the scholar, the archaeologist or any man interested with the problem of origins.

Among the few uncatalogued tablets in the Museum collection there has come to light, during the past summer, a fragment from Nippur which is of unusual importance in this connection for it is part of a chronological tablet that fills a gap in the early history of Babylonia. It begins at a point prior to 3500 B. C. and comes down to 3000 B. C., covering a period of more than 500 years and connecting up with other chronological records that have come to light from time to time.

By degrees, thanks to the documents published in the last ten years, we are reconstructing Babylonian history over the third millennium back to the legendary times of the kings after the flood. The part played in this reconstruction by the Babylonian Expedition and excavations in Nippur cannot be overrated. Indeed, Nippur and its temple towards B. C. 2000, at the time of King Hammurabi, the very time when Abraham started on his long wandering career, appears more and more as a centre of religious and intellectual life. At Nippur records of the past used to be stored, preserved and compiled, in form of statues, slabs of stone and votive objects covered

with inscriptions and reliefs, recording the names of the kings, their wars, their victories and their offerings to the gods. That ancient institution, with all respect and allowance for time and place, might compare with the modern abbeys of Westminster and St. Denis. A collection of those inscriptions on a large tablet done by a scribe of the temple is among the most precious documents preserved in the Museum. All of the inscriptions on that tablet concern three kings of the dynasty of Akkad, B. C. 2600, SARGON, RIMUSH and MANISHTUSU.

Besides the newly found fragment, the collection in the Museum contains other tablets of the same class. One of these is one-half of what must have been the standard work on chronology. It was a work complete in twelve columns, six on the obverse from left to right and six on the reverse from right to left. Column 12 is accordingly the reverse of column 1 and column 11 is opposed to column 2. This half tablet gives on the obverse and reverse the beginning and the end of the chronological scheme down to 2000 B. C. but gives no clue to the length of time covered by the missing portion or how to connect the fabulous kings who succeeded the Flood with those of the dynasties of Ur and Isin. Its text extends across columns 1, 2 and 3 on the obverse and includes columns 10, 11 and 12 on the reverse. Before the gap it fixes the dynasties of Kish, Uruk, Ur and Awan; after the gap are given the dynasties of Akkad, Guti and Isin.

The new fragment fits in the gap. It represents a portion of the text of columns 4 to 5 of the obverse and 7 to 9 of the reverse, with a few signs of columns 3 and 10, very useful to link it up with the text of the tablet just described. Unfortunately it does not belong to the same identical tablet. Their thickness is different. It is still more damaged. Top and bottom of all the columns are broken off.

Despite necessary reservations in presence of a mangled text, the great interest of the new fragment lies in the fact that it restores the main lines of Babylonian chronology as set down by tradition among the scholars of Nippur about B. C. 2000. (The Greek tradition of Abydenus and Berosus must be traced back to it.) Four new dynasties of Kish, Hamazi, Adab and Mari will take rank soon after those of Ur and Awan and before those of Upi, Kish, Akkad, Guti and Isin. We learn, too, the names of the first rulers of the Guti: Imbia, Ingishu, Warlagaba and Iarlagarum, four out of a total of 21 kinds who occupied the land 124 years and 40 days. The old Sargon, founder of the city of Akkad, the devotee of the god Zamama, was



Reverse of the tablet shown in Fig. 84.

Cat. No. 14220

FIG. 85.

the father of king Rimush and the grandfather of king Manishteshu. He reigned 55 years and his son 15. King Lugalanni reigned 90 years in Adab, and Ansir, the first king of Mari, 30 years.

This new and welcome piece of information must not blind us to the fact that absolute reliable chronology is actually out of the question, not only because a legendary number of years is attributed to the kings of the first dynasty of Kish (some 6, 7, 8 or 9 hundred years each), or because any attempt to supply by indirect computation the missing portions of the text would prove fruitless, but because the texts so far published do not agree in all details. Whether the various readings have to be traced back to the old scribe, or to the modern copyist has to be further established. Poebel's tablet attributes 125 years to the Guti dynasty where we have only 124.

Another famous chronological tablet published by V. Scheil is a full list of the kings of Upi, Kish, Uruk, Akkad, Uruk down to the invasion of the Guti, practically identical with the middle portion of the Nippur tablet. It may be an early witness of the same chronological tradition about B. C. 2400, or more probably a recent copy of the same Nippur work in three tablets instead of one; Scheil's tablet being number 2 of the series. Anyhow the copy has peculiarities of its own. The dynasty of Kish with its 8 kings and a total of 586 years, is supposed to have been founded by a woman, Azag-Bau,

who, being queen, reigned 100 years. Our fragment ignores Azag-Bau except as the mother of the first king of Kish, Basha-Enzu. His son and successor, Ur-Zamama, reigned 20 (or 80) years according to the new fragment and 6 according to Scheil's tablet. No doubt that the total number of years of this dynasty should appear very questionable.

Summing up the new chronological data we may safely establish the following scheme: beginning of dynasty of Isin about B. C. 2200; Ur, 2300; Guti, 2425; Akkad, 2650; Kish, 2875; Upi, 3000; before which we have to place at least 8 more dynasties of Mari, Adab, Hamazi, Kish, Awan, Ur, Uruk and Kish, about B. C. 3000 to 4000.

TRANSLATION OF THE TEXT

Obv. III.	reigned [30 years] [Elu]lu reigned [25] years [Balu]lu reigned [36] years [4] kings ruled [120+] 51 years [Ur] was defeated by arms				<i>Ansir</i> being king, reigned 30 years. [] -gi son of [<i>Ansir</i>]
		VI.	reigned 99 years. <i>Upi</i> was defeated by arms. the kingdom passed to <i>Kish</i> . In <i>Kish</i> <i>Basha-Enzu</i> son of <i>Azag-Bau</i> being king reigned 25 years. <i>Ur-Zamama</i> son of <i>Basha-Enzu</i> reigned (80?) years		
IV.	[4 or 6 ?] kings ruled 3600+192 years <i>Kish</i> was defeated by arms the kingdom passed to <i>Hamazi</i> In <i>Hamazi</i> [] -ni-ish became king and reigned [] years			Rev. VII. [liba]tor, devotee of <i>Zamama</i> . king of Akkad who founded Akkad being king reigned 55 years. <i>Rimush</i> son of <i>Šar-ru-ki-in</i> reigned 15 years. <i>Ma-ni-iš-te-šu</i> [son of <i>Ri</i>]mush
V.	passed to <i>Adab</i> In <i>Adab</i> <i>Lugalanni</i> established it. being king he reigned 90 years. 1 king reigned 90 years.				
V.	<i>Adab</i> was defeated by arms. the kingdom passed to <i>Mari</i> . In <i>Mari</i> .				

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- | | |
|---|--|
| <p>VIII. The people of <i>Gutium</i>
 had no king.
 <i>Imbia</i> ruled 5 years.
 <i>Ingishu</i>,
 ruled 7 years.
 <i>Warlagaba</i>
 ruled 6 years
 <i>Iarlagarum</i>
 ruled [3?] years
 </p> | <p>124 years 40 days.
 The people of <i>Gutium</i>
 was defeated by arms.
 the kingdom
 passed to []
 </p> |
| <p>IX. ruled [] years
 21 kings</p> | <p>X. [son of <i>Gimilili</i>]shu
 [reigned 21] years
 [Ishme-Da]gan
 [son of <i>Idin</i>]Dagan
 </p> |

L. L.



Photo by Dr. Joseph K. Dixon

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Ojibway mother and child. The Ojibway, or Chippewa, was a large tribe whose range was about the Great Lakes and across Minnesota.

INDIAN CRADLES

THE long period of infancy has been the one stabilizing influence in the foundation of human society. Around the mother and her helpless child is built the home which is the basis of all social systems. The cradle therefore has become a sacred emblem among civilized men. Even in primitive society the child is the strongest bond of family life. Both parents love their offspring with extreme passion and show their devotion and affection by solicitude and tender care for all their children but especially for the infant in the mother's arms.

The cradle in Indian life is not something into which the child is placed to rest and sleep, but it is a device upon which he is bound for a large part of the first six months of his existence. It is more a baby carrier than a cradle, but it serves both purposes. The cradle, however, is not in universal use among the American Indians. The tropics are too hot and the arctic regions too cold for the comforts of the cradle. The Eskimo mother when on a journey tucks her baby away in the hood of her own great fur coat where it nestles against her warm back; while the mother in the tropics when on a journey places her naked baby in a hammocklike bandoleer made of bast or woven fibre, where it sits under the protection of her arm with its legs dangling against her own nude body.

Even where the cradle is in use the child is not confined all the time, as many suppose, but only when on a journey or while being carried about the house or field. In the house he is placed upon a fur robe or mat of some sort on the floor and allowed to roll about and exercise his growing limbs. At such times his sisters look after his entertainment and care. The tropical child, when not in his bandoleer, is placed in a hammock where he is free and safe from crawling insects. If his mother should wish to take him up and carry him about for a few minutes, she would allow him to sit astride her hip. This method is common also in other regions where the cradle is in regular use. Clothing is not allowed to hamper the freedom of primitive children until they are eight or ten years of age. Among some tribes a public celebration is held when a boy is invested with his first breechclout.

The great variety of cradle designs is due to, and depends upon,



From Curtis' The North American Indians

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Apsaroke mother and child. The Apsaroke Indians of North Dakota form a tribal division of the great Siouan family, so called after one of its best known members, the Sioux.



From Curtis' *THE NORTH AMERICAN INDIAN*

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Hidatsa mother and child. The Hidatsa Indians had their home in North Dakota.

the available materials and the customs regarding the manufacture of other articles. There are dugout cradles, board cradles, bark cradles, skin cradles, basket cradles and hanging cradles. Each one the best possible type for its particular area. Besides the cradle framework, there is also the body of the cradle, the bed, the canopy, the ornamentation and the superstitious objects, all of which harmonize with the general culture of the tribe using them. In anticipation of the birth of a child, the father, with the strictest possible care, prepares the framework of the cradle which is to be its portable bed until it is able to walk. The bed, with all its ornaments of fringes, beads, quills, trinkets, bangles and feathers, is made by the grandmother who is an expert artist at such decoration. The fetishes and other superstitious objects may be attached later. A new cradle may be made for each new baby, but the more common custom is to preserve the cradle for successive infants, to treat it as a sacred object and to pass it on by inheritance to the next generation bearing notches cut in the framework to indicate the number of children it has accommodated.

When the average man thinks of an Indian he has in mind a Sioux in his buckskin shirt and war bonnet with a streamer of feathers reaching to the heels of his moccasins. And so, when he thinks of a papoose cradle, he thinks of the Sioux cradle made of two divergent slats held in place at head and foot by cross slats with the tops of the side slats extending a foot or more above the cradle sack. The papoose case of such a cradle is shoeshaped and stiffened around the head with a lining of buffalo leather. The case is covered with beautiful beadwork in geometric patterns of blue, red, yellow and green on a white ground. This cradle differs from all other types in that its sides are tied with four separate strings instead of being lashed together with thongs.

Skin cradles were common in the buffalo area of the Great Plains. The crudest type was a mere roll of buffalo skin having the fur on the inside. Better ones were made of dressed skins lashed to a lattice-work of flat sticks with a beaded or quilled canopy over the face. Among the Algonquian and Iroquoian tribes a board, beautifully carved and gorgeously painted, takes the place of the lattice frame of the Siouan cradle. To insure the life of the child, the board for the cradle is so selected that the heart of the tree is preserved and the head of the cradle follows the grain of the wood. The decorated bow of the canopy is bent at right angles while in all other types it is



Museum collection

Photographer unknown

A Winnebago baby.



From Curtis' *The North American Indians*

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Hidatsa mother and child. The Hidatsa Indians have their home in North Dakota.



Museum collection

Photographer unknown

An Osage baby. The Osage tribe of Indians are classed by students of American linguistics as belonging to the Siouan family or stock, so called after the Sioux, the best known tribe speaking one of many related languages. These so-called families or stocks have no other significance and are not in any sense to be taken as organized groups of any kind or as having common customs or traditions. The Osage, who formerly lived in Missouri, now live in Oklahoma, where they possess much wealth.



Museum collection

Photographer unknown

Guarding the baby. Porno. The name of a linguistic stock in California.

bent in a regular curve. These cradles also have a foot rest which is lacking in all others except in that of the bootjacklike frame of the Navajo.

In the interior of Alaska the Athapascan cradles are made of birch or cedar bark in the form of a trough having a hood and a bed of fur while along the North Pacific Coast the boatlike cradle is dug out of a cedar log. In the one region they make their utensils of bark and in the other they make them of wood. The Bellacoola make a coffinlike cradle of boards and furnish it with a bed of shredded bark overlaid with the softest fur. In another region away from the coast the Klamath use a forked stick for a framework across which sticks are tied for the attachment of the wickerwoven cradle. A variation of this type is found in the Pitt River region where a stick is bent in the middle, the two ends crossed and lashed together for the framework. The Mohave cradle is made like a trellis of sticks bent in the shape of an ox bow with crossbars lashed to the frame, upon which is placed the bed of willow bark. The Yaquis lay canes side by side and lash them with cross sticks to form the framework.

It is interesting to note that the oxbow type of cradle was found among the ancient Basketmakers and Cliffdwellers of the South-



Museum collection.

Photographer unknown.

A Dakota child. The Dakota or Sioux tribe or confederacy was one of the greatest and finest of the North American Indian peoples. The child in the picture has outgrown its cradle.



Photo by Dr. Joseph K. Dixon

Copyright Bodmer Wamsucker, 1913

Mrs. Lookout and her baby, Fred. Osage. The most important southern division of the Sioux, living in Missouri.



Photo by Dr. Joseph E. Dixon

Copyright, Rodman Wansmaker, 1909

Papoose in cradle. Crow. A Siouan tribe of Rocky Mountain region.

west and among the modern Apache and Hopi in the same general region. The Basketmakers, the earliest inhabitants of the cliff houses, had in addition to the stiff reedbacked cradle, two flexible types; one made of grass and yucca leaves with a woven yucca netting and another of woven strips of cedar bark held together by twined rows of yucca leaves. The Cliffdwellers cradle had the cross sticks lashed to the frame with cords made of human hair. The Apache cradle has the bent pole with laths of white pine, while the Hopi has the parallel rods attached to the curve of the bow. Twigs are then woven in this warp in regular basket fashion. On the Pacific Slope the dugout type of cradle is copied in coiled basket-work, whereas the Thompson River Indians made a beautiful shallow basket cradle of the same material used in their ordinary baskets. The canopy of most cradles was attached to the cradle in permanent form but a few tribes had a movable or adjustable top. The Zuni were the only ones to have the folding or buggytop type. Their cradle board differed also from others in that it had a pillow rest of wood to steady the head. They used a soft bed to nullify the effect of the hard cradle.

The cradle, in addition to its ordinary use, was employed in some regions to produce aesthetic effects. The artificial deformation of the head to conform to an established ideal of beauty was accomplished by means of a special attachment to the cradle board. By means of this instrument continued pressure was applied to the head, while the bones were still soft, until the desired form was secured. The most common method was to flatten the forehead. In two distinct and widely separated districts, the Gulf States east of the Mississippi and the Columbia River region of Oregon and Washington the Indians attached a board to the cradle frame at such an angle that it produced the characteristic "flat head."

Intentional mechanical deformation of the head was common among ancient civilized peoples of the Old World and has been practiced among the American Indians from prehistoric to present times. Everywhere the Flathead cradleboard type is the most common but in some cases small boards, pads or bags of sand or seeds were used to produce the same general form. The frontal bone being thus compressed forces the head to expand laterally in compensation. Among some tribes of the Andes Mountains and in one place only in North America—Vancouver Island—pressure was applied about the head by means of bandages and a series of small pads



From Curtis' THE NORTH AMERICAN INDIAN

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Teton mother and child. The western and principal division of the Sioux, including all the bands formerly ranging west of the Missouri River.



From Curtis' *THE NORTH AMERICAN INDIAN*. By permission of THE NORTH AMERICAN INDIAN, INC.
An Apache baby. The most southerly group of the Athapascan family living in Texas.



Photo by Dr. Joseph K. Dixon

Copyright, Holman Wamsley, 1915

An Apache woman and child. An Athapascan tribe living in Texas.



Photo by Dr. Joseph E. Thom

Copyright, Rudman Wanamaker, 1912

A Havasupai mother and child. A small isolated tribe of the Yuman stock living in natural caves at Cataract Cañon, Arizona.

passing over the brows and under the occiput, producing a long conical form with low frontal and narrow parietal regions.

Besides these intentional deformations there are others which are unintentionally produced and due to the form of the cradleboard. The result is as definite as it could be if intentionally produced. All mothers in the tribe use the same form of cradle, hence all children of the tribe have the resultant deformation. Thus a tribal mark is established but it may be so slight as to be unnoticed in the living head. The skull, however, would reveal the deformity and could easily be classified. Hence this accidental custom serves a valuable ethnic purpose. The most common deformity is the occipital flattening produced by long continued contact with the unpadded cradleboard. It is found throughout the Southwest tribes. Not all cradleboards produce this effect. The Algonquian tribes and many tribes of California and the Great Plains had perfectly normal heads and yet all of them used cradleboards of some sort. The Eskimo do not use a cradle and consequently their heads are normal.



Photo by Dr. Joseph K. Dixon

Copyright, Solomon Wenzel, 1913

Bird Red and Baby. Southern Ute. A Shoshonean tribe living in Colorado.



From Curtis' THE NORTH AMERICAN INDIAN

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Cayuse mother and child. The Cayuse were formerly a large tribe occupying a great part of Washington and Oregon.



Photo by Dr. Joseph K. Dixon.

Copyright, Fredman Wamankley, 1913

Walnutum and her baby. Wasco tribe. Note the trinkets attached to the cradle board for the amusement of the child. The forehead is flattened and each ear is pierced with five holes. The Wasco is a Chinookan tribe living in Wasco County, Oregon.

The artificial deformation of the skull does not appear to produce any evil effect upon the health or the intellectual development of the child at the time or during his after life. The growing brain makes compensation by developing in the unobstructed directions until it has attained the normal dimensions.

Whatever the motive for intentional deformation may have been in the beginning the only motive today would seem to be the perpetuation of an ancient custom which is considered in the tribe as a mark of distinction. The form produced may no longer be considered an ideal one, nor the persons themselves considered superior men but the practice is continued out of respect for the ancestral custom. Like all customs which have lost their distinctive value and are performed perfunctorily this one tends to disuse and is destined to an early disappearance.

When an Indian infant dies during the time it is carried in the cradle, the grief of the mother is pathetic. Among some tribes the body is buried and the disconsolate mother fills the baby's cradle with something suggestive of the child and carries it about with her wherever she goes for a year, giving it the same care as though the child were in it. When she is at work she stands the cradle against her wigwam and talks to it just as affectionately as if it were the child itself. In other tribes the cradle of the dead child is either thrown away, broken, burned, placed on the grave or buried with the corpse inside. The dead Apache baby is wrapped in its cradle and placed in the upper branches of a tall tree. If it were buried under stones as are adults, its soul would be too weak to come forth and rise to the spirit world.

The object of this article is not an exhaustive study of papoose cradles in general, but only an attempt to call attention to some of the types in our museum collections and more particularly to describe in some detail one very unusual and most remarkable object to which the name of cradle has been applied though it is in fact of unknown use. Whatever its use it is one of the finest pieces of basketry known anywhere.

A TRIUMPH OF BASKETMAKING

The basket was found by E. B. Wallace in a cliff house in Moki Cañon, San Juan County, Utah, near the Colorado line. In 1904, it was exhibited at the World's Fair, St. Louis, and was awarded a medal. Thereafter it was on loan at the Field Museum until finally



BASKETWORK FROM A CLIFF DWELLING. THE SO CALLED CLIFF DWELLER'S CRADLE





From Curtis' *THE NORTH AMERICAN INDIAN*

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A baby of the Nez Percé or Pierced Noses. The main tribe of the Shalupian family, discovered by Lewis and Clark in 1805.



Museum collection

Photographer unknown

A Puyallup mother and child. A Salishian tribe living on
Commencement Bay, Washington.



Photo by Dr. Joseph E. Daus

Copyright, Holmes Warrmaker, 1913

Sadie Boyd and her child, of the Nespelmin tribe, living on a branch of the Columbia River in Washington. This woman and child have European blood and the decorations on the cradle are also of European origin.

purchased by the University Museum in 1908. It is in perfect condition and is certainly the finest example of the basketmaker's art from that region in any museum.

Since this specimen was found three others of the same type have been reported from nearby cañons. Dr. J. W. Fewkes published one in Bulletin 50, 1911, Bureau of American Ethnology; Professor Byron Cummings published one in Bulletin of the University of Utah, 1910, and referred to another in American Anthropologist, Vol. 17, 1915; two unfinished bifurcated bottoms are in the Deseret Museum, Salt Lake City, Utah. None of these is in good condition.

The basket here illustrated is open at the top and continued into a bifurcated extension at the bottom. It stands $7\frac{1}{4}$ inches to the crotch and $22\frac{1}{2}$ inches in total height. The top diameters are $8\frac{3}{4}$ and $6\frac{3}{4}$ inches while at the lower body they are 7 and 5 inches respectively. It is very ingeniously made of coiled basketry, four coils to the inch in the body with fourteen stitches to the inch. The splints are so narrow and are pulled so closely together that the foundation rods are completely hidden. The splints around the coils interlock with those immediately underneath. The coils of the body are made up of one large stick and one or more smaller ones on top for filling while in the leg coils there are six or eight split sticks one above the other. The coils are so strong that it would require a weight of two hundred pounds to crush the basket even at the top. Looking down into the basket the coils are seen to run counter-clockwise.

The back of the basket where the thongs are attached shows some polish from use and the bottoms of the legs show considerable wear. On the inside there is some polish for four inches down from the top but lower down the surface is very rough and shows no wear except on the crotch where apparently the burden, whatever it was, rested, as there is no evidence of wear in the bottoms of the legs. The thongs for support in carrying were $6\frac{1}{2}$ inches from the top. They remain on one side as two staples, having been cut off on the inside after the basket was last used. In a corresponding place on the other side of the back four holes remain where the thongs were fastened. Holes around the rim below the second coil about two inches apart would seem to indicate that the basket had been lined. There are also three pairs of holes in the front between the crotch and the middle zone of the design. These holes are so small that they



Museum collection

Photographer unknown

A Umatilla baby. The Umatilla tribe is a member of the Shaparian family or stock and is living on the Umatilla River in Oregon. The name of the family or stock and the idea of it is an invention to enable scholars to group together tribes speaking related languages. It has nothing to do with any other relationships. The important name is that of the tribe.



From Gorris' *The North American Indians*

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A Flathead baby. A tribe of the Salishan stock living in the Bitterroot Valley,
Montana.



Photo by Dr. Joseph K. Dixon

Copyright, Hedman Wamstad, 1917

Mrs. Agnes Mathew and her baby. Nez Percé. A tribe living in Colorado and Utah.



Museum collection

Photographer unknown

Mother and child. A western type, tribe unknown.

would accommodate only a fine thread such as might be used to hold a lining in place.

The design is made by the careful manipulation of splints dyed brown or black with those of natural color. It is almost identical with the design of the basket published by Dr. Fewkes and greatly resembles the painted designs on Cliffdweller's pottery.

The area in which these bifurcated baskets are found is restricted and corresponds very closely to that of the culture of the Basket-makers, the oldest culture of the cliff house region. So far, however, no baskets of such excellence have been found in what are known to be Basketmaker caves and besides there is a difference in the method of manufacture; the splints do not interlock in the oldest baskets but pass around the coil above and through one of the soft elements of the coil below. It would seem then that these baskets belong to the later Cliffdweller culture.

The use of these baskets can only be conjectured. We have no complete account of how they were found or what was found in or about them. A pair of infant's sandals was found with one of the baskets, but this is hardly sufficient evidence to prove their use. The basket is not at all suitable for a cradle. It is too small; a baby's foot with a sandal on would not go into the leg of the basket and it would be most uncomfortable for the child even if it were possible to get him poked into it. All other types of cradles here observed are sensible devices made with reference to the proper care of the child. As already stated, the Cliffdwellers had the oxbow type of cradle in common use.

Basketry was very rare among the Cliffdwellers, hence what they had must have been made for some important purpose. The other baskets of this type which have been reported are almost exact duplicates of the one here figured. They were the most difficult of all baskets to make because of the legs and the strength required in the body. The legs must have been necessary in their use. Their presence, of course, is the reason they have been called cradles. We may take a suggestion from some of the tribes now living in the Southwest. The Hopi believe that a supernatural being, called Kachina, visits them during their sacred dances. They make wooden images of this being with short legs, a long body and a large head. They make also prayer offerings of two sticks with some object tied between them. These things are made by the medicine men of the different clans. In view of these beliefs and the practices of modern medicine men, it would seem reasonable to suppose that the ancients in the same region had somewhat similar customs and beliefs and that these bifurcated baskets belonged to medicine men who used them to carry sacred images of some sort.

W. C. F.

MAORI WOOD CARVING AND MOKO

THE objects dealt with in this article form part of the exhibition lately arranged in the southeast room on the ground floor of the Museum and intended to illustrate the representative and decorative art of some primitive peoples of Africa and Oceania. As examples of this art, remote in its results, as it probably is in conscious purpose, from realism, yet born of and still unmistakably affected by an interest in reality, the productions of Maori craftsmen are preëminent.

The Maori inhabit the southernmost land reached in their oceanic wanderings by the remarkable race which colonized the scattered archipelagoes of the Pacific from Samoa to Easter Island and from the Hawaiian Islands to New Zealand. In the British Dominion last named the Maori have prospered better than Polynesians elsewhere in contact with the whites, whose settlement in their land these first New Zealanders formerly contested with great courage and determination. This group of the Polynesians had maintained themselves for centuries in an environment where nature is less generous in providing for men's needs without energetic collaboration on their part than she is in the tropical regions of the South Seas. They had to employ, in their efforts to win from her their livelihood, means more arduous and unremitting than those which a less exigent necessity imposed upon the kinsfolk they had left in the tropics. They have thus preserved the vigorous mental frame and the virility of disposition which were the inheritance of the adventurous seafaring stock from which they came.

Something of this energy and of the liveliness of imagination which is allied to a practical resourcefulness in meeting the workaday situations of life is reflected in their extremely vigorous and fanciful carvings, executed in a style so peculiarly their own that no one who has known two or three examples would be likely to fail in recognizing the Maori manner wherever seen.

A detail of design or an individual figure is seldom so accentuated as to overshadow the general impression of richness, often combined with an almost lacelike delicacy, that is received from the whole. Using as he did the most primitive and inexact of tools, the artist seldom fails in symmetry. Though his lines and curves interlace in



Detail of the lintel, Figure 87. The ancestral figure in the centre seems to be trampling upon a birdheaded monster while two similar creatures whisper in his ear,

FIG. 86.

a maze of arabesques, or vary with the limitations of his material, they are seldom faulty or misplaced. And if tradition, its authority reinforced by the terrors of the taboo and the awe of the gods of the forefathers, prescribed the general form and manner of his work, his imagination found means of varying details and arrangement so that it is rare to find two quite identical examples of any one design.

Religious tradition is both guide and ally of the arts among peoples whose social and religious ways of life are summed up in a phase of culture which we are accustomed to characterize as barbarous or savage or low. Of the three means by which the artistic genius of the Maori found its principal expression—tattooing and the carving of canoe decorations and of house ornaments—two were directly in the hands of a division of the priestly caste, and the third was subject to its censorship or control. For though the tattooer was not, as such, a priest craftsman, his subject and himself were, during all the time of the operation, under a taboo; and a tattooer of any eminence did become, when his skill was generally recognized, a member of the priestly caste, a *tohunga*.

The case of the tattooer, indeed, provides an enlightening commentary on the influence of such sacerdotal control on art—if one should be disposed to claim that its results were mainly productive of evil. The tattooer, it has been said, was not necessarily a *tohunga*, and therefore not to quite the same extent as other artificers subject to that influence; and while some of the finest examples of Maori decorative art were in his medium, so also were some of the worst. This is part of a song of the tattooer as he plied his chisel.

I am the man who will mark
The man who will pay well
With beautiful tattooing;
But the man who will not pay
Crooked and wide will be his marking.

A short account of the ceremonial observances which were connected with tattooing will serve to illustrate the intimate connection of religion with the daily life and the art of the Maori. Perhaps it will be as well to say that the word taboo (*tapu*) is here used in its most generally accepted sense, as meaning a ritual prohibition the violation of which involves dangerous or fatal consequences from the wrath of the gods.

"When the skilled artificer (*tohunga*) was doing his work of



A lintel, showing characteristic forms and methods of Maori decorative woodcarving. The spaces not occupied by the principal figures and the omnipresent spirals are skillfully filled in by repeating details of those figures.

FIG. 87.

tattooing, he, the person operated on, and all the people of the village were *lapu*, on account of the blood on the operator's hand. At the conclusion of the affair, three ovens were lighted, one for the artificer, one for the gods, one for the person just tattooed and for the rest of the people. To raise the *lapu*, the *tohunga* first washed his hands, and then taking a hot stone from the gods' oven would throw it from one hand to the other, then replace it in the oven. This transferred the *lapu* to that stone, and the food cooked conveyed it back to the gods. The food in the gods' oven when cooked was put into a basket and hung up in a sacred place." [E. Tregear. *The Maori Race*, pp. 265, 266.]

The taboo which prohibited ordinary intercourse with the persons involved being thus removed, they were now once more *hou*, common, ordinary, restored to their normal position in the social and religious scheme of things. An earlier writer on Maori customs, in speaking of a village where a number of chiefs were undergoing the operation of *moko* or incised tattooing, says that "it appeared as though some dreadful disease had suddenly struck the greater part of the inhabitants and deprived them of the use of their limbs" for being all "under the law, they could not feed themselves with their hands." A wooden funnel was used for feeding men who were being tattooed.

Men were tattooed both on the face and on the body; women not often and only sparsely on the body, and, on the face, usually only about the mouth and chin. "When the daughter of an important chief had her lips and chin tattooed, a day was set apart on which the tribe would assemble to view the work of the artist. A party would be sent forth some time before to secure a member of another tribe 'for sacrifice and to give strength to the tribe by eating'." [Elsdon Best, *Trans. N. Z. Inst.*, xxx, 1897, p. 38.]

Since the most solemn sanctions and observances of religion surrounded the artist, and to a great extent conditioned the quality of his work—as we may infer from the above statement of the importance attached to its public exhibition—it is clear that religion and religious feeling, while they imposed great limitations on the artist, must at the same time have inspired him to do his best within the limits imposed. And the public esteem of works of art was an important additional spur. With regard to the wood carvings we are told on the one hand that "departure from the lines laid down by their ancestors was considered an *aitua* or evil omen to the carver, which often resulted in death;" and on the other that fine examples

were regarded by their owners and by the people in general with as much affection and admiration as are accorded to great pictures or sculpture by connoisseurs and amateurs of art among us. While the artist's originality was thus curbed by tradition strengthened by supernatural sanctions, technical proficiency and, within narrow limits, a certain freedom of fancy, were encouraged by the same tradition and by a public sentiment closely allied with it.

The word tattooing has been used above to denote the operation we are considering, although the typical Maori performance was not tattooing proper. The word tattoo (*tattaw, tatu*) was introduced to Europeans in the latter part of the eighteenth century by Captain Cook and his companion, Lieutenant Banks, and properly refers to the Tahitian process, paralleled among lightskinned peoples in various parts of the world, of perforating the cuticle with a series of small holes and inserting a pigment, the result being that, on healing, the skin showed a pattern formed by an almost continuous line of small blue spots. This method was also followed in New Zealand, principally for body tattoo; but the characteristic Maori process was known as *moko*, and consisted in making a series of continuous small rectilinear cuts in the skin by tapping with a light mallet upon the head of a miniature adze with a chisel-like bone blade, the colouring matter being immediately applied to the bleeding wound thus caused. When the wounds healed the pattern appeared in series or groups of bluecoloured grooves in the skin, deep enough sometimes to lay a pin in. *Moko* was thus, to all intents and purposes, a kind of skincarving.

Considering the yielding nature of his material, especially where, as on the cheeks, there were no bones near the surface, the accuracy and clearness with which the designs were executed are quite remarkable. The artist was conscious of the importance of his calling, and knew besides that he was executing a memorial to his own skill that would endure beyond his span of life. "The privileges of *moko* [were] limited to men of distinguished birth or to warriors celebrated for their grand deeds." "To have fine tattooed faces was the great ambition of young men, both to render themselves attractive to the ladies and conspicuous in war; for, even if killed by the enemy, whilst the heads of the untattooed were treated with great indignity, and kicked on one side, those which were conspicuous by their beautiful *moko* were carefully cut off and . . . preserved." [H. C.

Robley, *Moko or Maori Tattooing*, pp. 26, 27.] The heads of relatives were preserved with even greater care.

Whether the woodcarving or moko was the earlier development, is, of course, an open question, but there would seem to be little room for doubt that the woodcarvings that have survived owe some of their most important features to the moko. Apart from the purposes just indicated as those for which the face moko was assumed, it was intended to render the appearance of a warrior more terrible to an enemy. The grim impressiveness of some of the house carvings is largely due to the conventional manner of representing the faces of the human figures which are their most important feature. The faces of warriors as they advanced to battle with widely distended mouths, protruding tongue, and eyes glaring wide under brows



Main outlines of a face moko.

FIG. 88.

strained upwards, furnished the model for these highly idealized carved countenances. And the moko must in the first place have been intended to accentuate and to mark on the living face when at rest these traits of the warrior's expression at the moment when he attained the ideal of impressiveness.

If the face of the lefthand figure (Fig. 86) from the door lintel (Fig. 87) be compared with a drawing (Fig. 88) of the principal outlines (such as the moko artist might have drawn in blocking out his design on the skin) of a carving intended to represent realistically a mokoed head, and, further, with those of a sketch of his own face moko (Fig. 89) made by a chief as his signature to a land grant, it is evident that the conventional human face of the wood carvings

bears a very close relation, probably that of derivation, to the moko face markings.

In the former the head has become merely a vehicle for a highly stylized treatment of the regions of the mouth and eyes, the all-important instruments of facial expression. It scarcely needs more than a casual comparison of the illustrations referred to, to make the connection evident. Only two points, perhaps, need to be particularized. These are the shortening of the nose, which feature, in some carvings, almost disappears, and the emphasis placed on the tubercle of the upper lip, which descends in a sharp point to the protruded tongue. In nature, even in a case where the tubercle is especially marked, the peak it makes in the normal outline of the lips would tend to disappear from a mouth so widely distended as it is represented to be in the carvings.



A chief's moko drawn by himself as signature to a land grant.

FIG. 89.

The two points are in fact closely related. The distinctive nose moko with its two spirals on each side lays greater emphasis on the upper of the two, which is usually the larger. The tip of the nose itself invades the space marked off by the inner outline of the moko of the mouth region. It is these main outlines of the face moko which give the woodcarver the features of his ideal face. So the tip of the nose becomes included in the conception of the terror-striking distended mouth, and the upper nose spirals give the suggestion for the beastlike shortened snub nose, while the lower spirals of the nostrils, inconspicuous in a full face view, tend to disappear (cf. Figs. 89, 91).

It is worth noting in this connection that one of the mokoed heads in the exhibition shows a feature said to be a mark of those heads which were preserved in memory of relatives. In the process



A detail of the lintel, Figure 87. The characteristic three-fingered hand and the four spirals marking the junction of limbs with body are well shown.

FIG. 90.



A house ornament. The head has a realistic representation of a face moko.
FIG. 91.



A canoe figurehead. Careful treatment of details has in this case been sacrificed to the emphasis placed upon the birdlike figure forward. The carving is unfinished.

FIG. 92.

of mummifying, the lips were sewed together, a stitch connecting the tubercle of the upper lip with the middle of the lower. In the mummied heads this gives the mouth the appearance referred to, and may have contributed by suggestion to the final result.

Figure 87 is a good example of several of the principal elements in Maori designs—the spiral, the scroll, the chevron, and a detail which has been called the ladder, consisting of parallel vertical or horizontal (in this case, horizontal) lines connected by short bars, which sometimes assume the chevron form. The skilful adaptation of forms to available space which is so characteristic of the carvings is well illustrated in the filling in of the triangular or roughly diamond shaped spaces between the large double spirals and the outer edges of the decoration on the one hand and the human grotesques on the other with adaptations of the form of the faces of the three principal figures.

The carving appears to represent an old Maori legend of the temptation of man by a *manaia* or mythical monster with the head of a bird. The arms of the figures are upraised and terminate in the usual three (elsewhere sometimes four) fingered hand. Across the base of each hand stretches the head of the *manaia*, which seems to be whispering to the victims. The head of the *manaia* appears again at each end of the horizontal panel which supports the three upright figures, this time with the curving beak, the point of which is lost in the case of the other heads, further stylized into a whorl or scroll. The eye spaces were originally filled, according to the convention, with discs of *haliotis* shell pierced to allow the pupil or iris, in the shape of a small peg or boss carved in the middle of the eye opening, to appear.

The house was a low walled structure with a high gable roof. Commonly there was a single door flanked on one side by a window, both opening on to a porch which occupied the width of the front end of the house. The houses of persons of importance and the storehouses were adorned with carvings, both within and without. Doorways and windows had elaborately carved jambs and lintels. The sloping edges of the gable were faced with carved boards. The spaces between the uprights used in constructing the walls were filled in with matting. The point of the gable was crowned with a grotesquely carved human figure. Slabs with the typical human grotesques were sometimes hung like pictures on the matting in the house, or were used to close the small opening of the door of the store-



The sternpiece of a war canoe, containing probably the same symbolic elements as the figureheads of such canoes.

house. Great upright redpainted carved slabs sometimes flanked the low outer sides of the porch. All these were regarded as important works of art, greatly treasured by the owners, and admired by the people in general.

As recently as the late seventies of the last century, the old customs and ceremonies connected with the building of houses were kept up. An interesting account is extant of the building of the house of a member of a family of chiefs about that time, as related by his widow. Five chiefs, one of them the widow's brother, with about seventy tribesmen, convoyed the posts for the building a long distance, at a cost for freight and passage of over eight hundred dollars. The first post erected was named after a chief. To assist in the raising of the ridge pole, which was named after another chief, a *tohunga* was sent for, who chanted an incantation, "The Raising of Tainui." The widow's brother was one of the woodcarvers. Some of the workmen having burned some chips from his chisel in a cooking fire, "a sickness fell upon our people;" so that a special ceremony had to be performed to stay the plague. When the building was completed another *tohunga* was sent for to conduct the ceremonies necessary for the removing of the taboos which affected a house under construction and its builders. Then men entered and ate food in the house. Finally the widow and two other women stepped ceremonially across the threshold into the building, as the morning star appeared in the sky. This removed the last taboo, that which prevented women from entering a house of such importance.

House rafters and the topsides and prows of canoes were painted in elaborate and harmoniously arranged designs in black, red, and white. The making and the launching of war canoes were accompanied by incantations and ceremonies even more numerous and elaborate than those which attended the building of houses. The examples of figureheads and stern pieces illustrated here and to be seen in the exhibition, show the style of canoe ornament on which so much care and skill were lavished. The airy winglike appearance of the stern ornament, the lines of the detachable prow, reaching forward to the eager straining figure at its point, so well suggestive with its attitude of one about to leap or dive or fly, of the swift motion of the long canoe it seems to lead or convoy—all is another example of the high congruity of Maori decoration with the objects to which it is applied.

The birdheaded figure at the bow is a *taniwha*, a monster of



The figurehead of a war canoe. In this example the composite figure between the two large spirals and the representation of the demigod Maui on his back beneath them can be clearly distinguished.

FIG. '94.



A house carving showing two conjoined human grotesques. The heads are placed in such a manner that their long axes are at right angles to those of the bodies; and the trunks are shown in profile in contrast to the limbs and face. This is a common convention for carvings of this shape which are to be placed horizontally.



A house carving representing a human grotesque and a birdheaded monster conjoined.

FIG. 96.

the deep, and its close association with the spiral ornament of the central portion of the figurehead suggests a connection with the manaia of the house ornament described above. There are several elements of construction and design common to both kinds of canoe ornaments (Figs. 92 and 93) from the east coast of North Island. In the prow ornament the upper longitudinal central piece, which terminates forward in the winged figure and to the rear in a transverse slab carrying a small figure looking into the boat, was formerly carved from a separate board, and was named manaia, a name which it retained when carved, as in the specimens shown here, from the same solid log as the rest of the figurehead—the triangular base and the transverse slab. The manaia comprises two spirals and a composite figure between them, which in its origin is made up of two embracing taniwhas in profile facing each other. In Figure 92 this detail has degenerated into an apparently meaningless group of curves. Beneath these, on the top of the triangular base slab lies supine a figure of Maui, the demigod who fished up the North Island of New Zealand from the depths of the sea with his fishhook. Below this again are three human or semihuman figures disposed horizontally. In neither of the figureheads here illustrated has the carving been completed—it was a lengthy process, and sometimes extended over a period of years—but in Figure 94, at the right, may be noted a peculiar feature of the woodcarvings which appears again in the house ornaments, Figures 95 and 96. In some of the figures, the face is set with its long axis vertical, while that of the body is at right angles to it. This occurs in oblong carvings which are to be placed with their long dimension horizontal, and the convention is



Left-hand detail of the house carving, Fig. 95. The middle of the trunk is clasped by the left hand, conventionally three-fingered, with a thumb suggested by the prolongation backwards of the index finger.

FIG. 97.



A carved wooden box used for the preservation of such valuables as the feathers of the *haka* bird which were worn as a hair ornament by chiefs. The lid of the box is shown above.



A feather box, with lid at the left.

FIG. 99.

no doubt due to the wish to keep the head in its normal position with regard to the beholder so as to be readily recognizable.

Practically the same details of design may be traced in the stern piece (Fig. 93), in variant forms and a different disposition.

Various suggestions have been offered for an explanation of the origin of the Maori spiral. Of these perhaps the most promising is that which would make it a serpent form and associate it directly with the manaia. Though there are no snakes in New Zealand, the Maori tribal memory is long and preserves other elements of an environment antedating that in which written history knows this people. The spiral, as we have seen, forms an important feature of the face moko. In the body tattoo, it appears on the buttocks, and when transferred to the full face carvings of the human figure, is shifted forward so as to cover the hip and groin. With this treatment of it may be compared its placing on the upper part of the trunk in such carvings to represent the breasts, though it takes in the shoulders as well. A different result of the convention, by which elements of a side view of the body are brought into a view *en face*, is shown in the human figures carved on the slabs, Figures 95 and 96, in which the trunk in contrast to the limbs and head is shown in profile. Such devices as this are undoubtedly connected with the elaborate symbolism whose meaning is still largely concealed behind these figures, distorted and grotesque enough regarded merely as representations of the human form, yet which fill so well their place in a decorative system or scheme that possesses a unique and peculiar beauty.

Not only the products and the processes but the materials and tools of the crafts were regarded as sacred, endowed with or protected by divine might. The trees which furnished the planks for their carvings and the other materials for house and canoe building were especially objects of reverence if not of worship. Famous trees bore special names and had special supernatural qualities. Some were set apart for generations for the building of a great war canoe.

The legend of the Coming of the Taki-timu, one of the fleet of canoes which is believed to have brought the Polynesian ancestors of the Maori to New Zealand from Tahiti in the fourteenth century of our era, contains an interesting picture of the conditions under which the great war canoes were constructed.

The Taki-timu was built from a great tree standing beside a stream. The tree had been consecrated to this purpose by an ancestor of the builders. It was felled by undermining it at the root, and,



A feather box. These boxes upon the carving of which, with the tasteful disposition and combination of spirals and scrolls, so much careful labour was expended, are among the most beautiful products of the Maori craftsman.

FIG. 166.



Detail of Figure 98. A handle carved as a grotesque human figure probably representing an ancestor.

FIG. 101.



A *tiki*, or war adze, the weapon of a chief, with a greenstone blade. These weapons were always rare and highly prized.

FIG. 102.



The handle of a chief's war adze.
FIG. 103.



The head, with blade, of the chief's war adze, Figure 102.

FIG. 104.



A *heitiki* (*hei*, neck ornament, *tiki*, carved figure) of greenstone. These were highly treasured heirlooms and mementoes of the dead. They were regarded with peculiar affection and reverence.



Two views of a carved wooden bowl, such as were used for setting food before honoured guests.

FIG. 106.



Detail of the carving of a large box used for the preservation of valuables.

FIG. 107.

sheds for the workmen and storehouses for their food were built beside the prostrate trunk. Experts were sent for to direct the work, and the stone axes of these great *tohunga* were specially named. Before the work was begun, incantations were pronounced over the axes, the tree, and the workmen.

. . . O Io-the-all-parent . . .
 . . . give to these thy sons
 That they may possess the ancient and occult powers,
 Like thy god-like sons . . .
 Now I uplift my famous axes . . .
 Axes with great edges, sharp axes . . .
 They enter within the wood . . .
 What is the name of my canoe? It is *Te-pu-whenua*! . . .
 Like a canoe of the dark ages is my canoe!
 Like those used by the gods . . .
 A canoe to direct its course to the new land is my canoe! . . .
 Brave to breast the waves of ocean is my canoe!
 To reach the land, to the mainland, direct her course!

When the trunk had been shaped, a ditch was dug and the hull buried in it, to season the wood. In the meanwhile, the separate parts, the fore and the after end pieces, the topsides, the figurehead, the mast which was to carry the triangular matting sail, and the



Upright from a window frame.
FIG. 108.

yards, were dubbed out, and then also seasoned in the same manner as the hull. When the canoe was finished, it was dragged with the help of skids to the place on the shore from which it was to be launched. There the finishing touches were put to it; the hull and the strakes were daubed with resin and painted red with hæmatite.

Of the other examples of Maori carving in the exhibition the most interesting are the feather boxes (Figs. 98, 99 and 100), the war adzes (Figs. 102 and 103) and the greenstone pendants in the form of a human foetus (Fig. 105.) The boxes were used for the safekeeping of the feathers worn as hair ornaments. They show interesting forms of the human figure (carved as handles for the boxes), the scroll, the ladder, the spiral, and combinations of these, which are the principal elements of design in the other carvings.

Figure 102 is a particularly fine example of a war adze, with the graceful form and perfect proportion and balance of its parts. A learned and sympathetic student of the life and art of the Maori, in speaking of the excellent taste which their craftsmen exhibited in their work, and the true artistic instinct they displayed, the patient labour of love bestowed on the beautifying of even the homeliest articles of everyday use, recently said: "The Maori never allowed the decorative to encroach upon or mar the useful. Ornamental carving was confined to such parts of implements as to preclude any interference with effective handling. When you see a canoe paddle carved all over, rest assured that it was not used for paddling purposes. When a hafted stone adze, carrying carved designs on

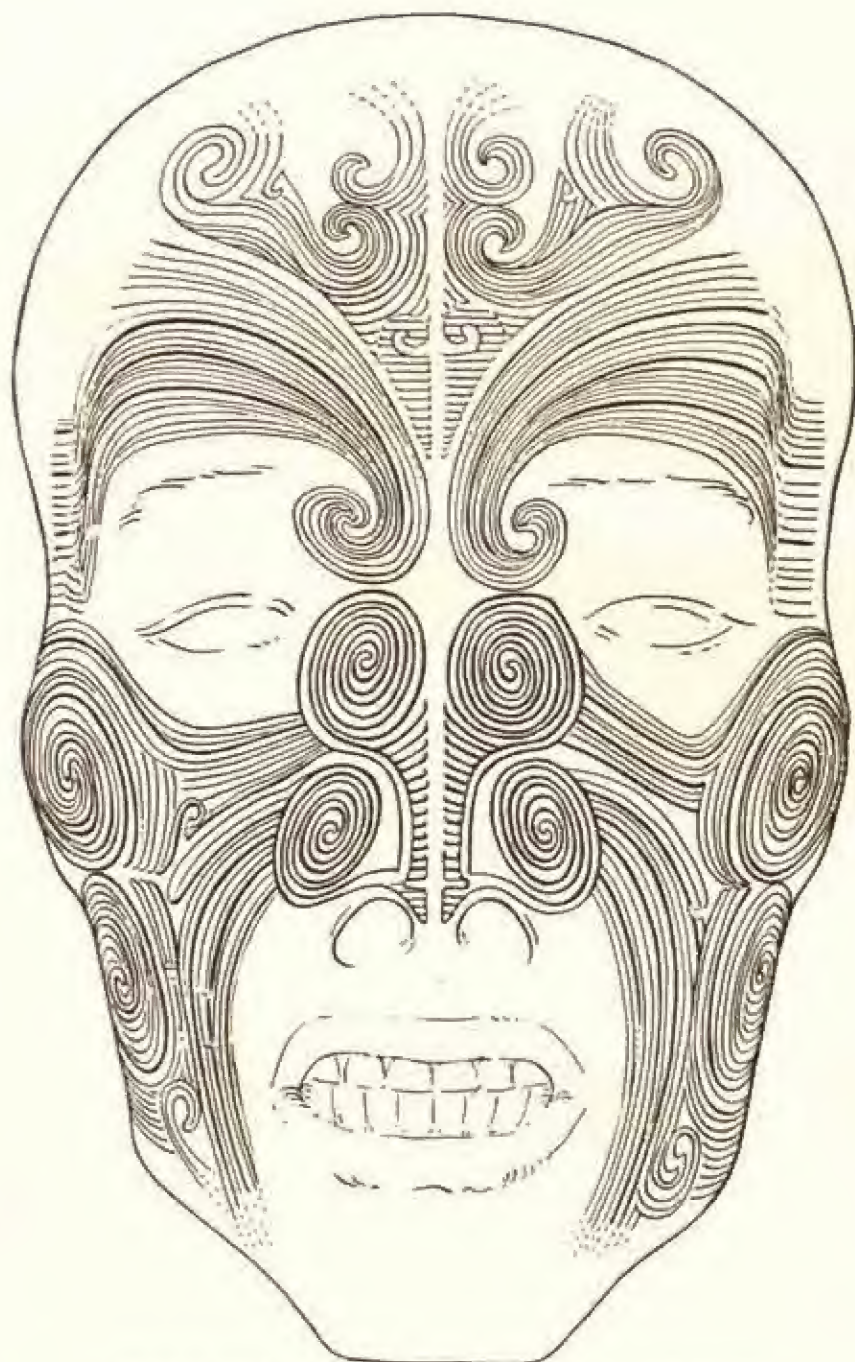
the hand grip is offered you, reject it with bitter words. It is a fraud. . . . The Neolithic Maori combined the useful and the ornamental whenever it was possible to do so. . . . [He] was more than an artisan, he was an artist. He loved to adorn the commonest artifact fashioned by his hands, and to express in every fabric his keen appreciation of true and faithful work." [The Relation of Decorative Art to Utility in Maori Artifacts, an Address to the Wellington, N. Z., Academy of Fine Arts, by Elsdon Best, October 12th, 1918.]

With the primitive means at his command, the beautiful lines and perfect finish of the hard greenstone alone in the weapon here shown required a degree of skill and painstaking workmanship which seem almost incredible. And the oldest and the finest productions of these artists were accomplished before the white man brought them iron and steel to replace the bone and shell and stone of the tools of their own devising. Is it no more than a coincidence that the improvement of tools and the discovery of easier methods of dealing with refractory materials goes hand in hand with a decline in the quality of workmanship and a weakening of the devotion of the workman to the task whose very difficulties were a spur?

H. U. H.



Maori Moko, from a preserved head in the University Museum.
Drawn by M. Louise Baker.



Maori Moko, from a preserved head in the University Museum.
Drawn by M. Louise Baker.

AN EARLY POTTER'S WHEEL

NO clearer evidence is known to the archæologist as to the civilization of any early people, than the pottery which he finds in his excavations. Peoples who make fine and artistic vases are usually endowed with an acute and accurate æsthetic sense. If the faculty for producing beautiful pottery is combined with the knowledge of the potter's wheel, the archæologist is entitled to conclude that the civilization with which he is dealing is of a very high order.

The Egyptians are usually believed to have introduced the use of the potter's wheel to the ancient world; but, in this country at least, as far as the writer is aware, no example of the wheel they employed exists. The object to be decided here bids fair to be the oldest example in America.

In the course of the excavations carried on at various places, and under various auspices, in Crete, a number of large, solid discs of stone or terracotta have been found. These discs are about a foot, or a little over, in diameter, and have a thickness of about two inches, which means that they are of considerable weight. They are not confined to any one locality, but are found on nearly every site where the Minoan civilization has been uncovered.

Gournia, the principal excavation carried on in Crete for the University Museum, also yielded to the excavators its share of these objects, and, indeed, so many were found that the Cretan government permitted one to be sent out of the country, and it is at present exhibited in the Museum. It was discovered with objects belonging in what is known to scholars as the First Late Minoan period, which covers the time from 1700 to 1500 B.C.

The use of these discs has till very recently been in doubt. Miss Boyd (now Mrs. Hawes) who was in charge of the excavations at Gournia, in publishing her results, describes two of them, as "belonging to a class of objects which are numerous and puzzling. . . . The most reasonable explanation," she continues, "seems to be that they are 'tables of offerings'."

This theory was adopted, in default of a better, by many archæologists, and when there was occasion to publish any object of this kind, it was that name, usually enclosed in quotations, which was



Potter's Wheel from Crete—Upper Side.

FIG. 109.

given to it. Doubt, however, always existed; and now a French scholar, Monsieur Franchet, has, in the writer's opinion, conclusively proved that they were used as the tables, or wheels, of a rudimentary potter's apparatus.

The example in the Museum being, in all respects, like all the others that have been found, although a little smaller, the description given below applies to it, as well as to them. These objects are usually made of coarse clay, although examples of stone have been found. One side is always plain and is frequently a little depressed in the centre. The edges of the discs are sometimes given a rough border of a twisted rope pattern; sometimes they are beveled, more often, however, they are not treated in any way, as shown by the specimen in the Museum.

In the specimens of stone, too, where the addition of a border pattern would be an added expense and serve no practical purpose, the edges were left undecorated.

But it is the other side of the discs that is of the greatest interest. In the centre is always a slightly raised circle. In the specimen here published this is raised about five millimeters, and has a diameter of fifteen centimetres. This is smaller than the average. In the centre of this circle is a small conical hole; in this specimen it is two centimetres deep and three and a half in diameter; usually it is somewhat larger. One of those found at Gournia, and now in the Museum at Candia, has a central hole of a diameter of no less than twelve centimetres. The circle, in the centre of which the hole is made, is always intentionally roughened, by scratches or grooves, or merely by rubbing.

Mrs. Hawes, on finding a number of these objects at Gournia, was inclined at first to consider them potter's tables, but, on second thoughts, decided to abandon this theory, largely on account of the specimen with the central hole twelve centimetres across; a diameter "which militates against its having been a mere socket, rotating on a pivot. . . . The weight of these objects also," she adds, "is against this practical interpretation," and she concludes by saying that we must await further evidence to decide the point. In the meantime she declared herself in favor of giving them the tentative name of "tables of offerings."

In the year 1912-13, M. Franchet was sent from France by the Ministry of Public Instruction and Fine Arts to study the primitive pottery of Crete and Egypt. Owing to the war the publication



Potter's Wheel from Crete—Under Side.
FIG. 110

of his results was delayed and has only appeared within the last two years.

While in Crete, M. Franchet was much impressed by these discs and, in the writer's opinion, established on a firm basis the theory of their being potter's tables or wheels—a theory which tempted Mrs. Hawes when she first saw them in the years between 1901 and 1904, but which, as we have seen, she abandoned.

The apparatus of which these discs are the essential part was, according to M. Franchet, a very primitive affair, requiring two operators—the potter, who shaped the clay on the wheel, and his assistant, to whom was given the difficult task of keeping it in motion. It was necessary, of course, to have an apparatus that would spin as many times as possible without having to be started again. This can best be done with a heavy table or wheel, just as a heavy top will spin longer than one that is not weighted. Thus the weight of the disc, which was one of Mrs. Hawes's reasons for discarding the theory of the potter's table, becomes one of the principal reasons for M. Franchet's adoption of it.

In this connection he cites the Hindus, more particularly in the region of Benares in Northern India, who, he maintains, use a heavy wheel of solid clay, framed in wood, of precisely the same shape, and having the same characteristics, as the Minoan wheels, even to the conical hole on the under side. It is claimed that a Hindu potter can, in the period of one spin of his heavy wheel, fashion from fifteen to twenty vases.

It will now be asked how the Minoan wheel was operated, and when the heavy wheel was developed. According to M. Franchet, the central hole on the under side was not a socket for a stake or pivot, but the wheel was sealed to the stake on which it revolved. This stake was of the same diameter as the central circles, and the hole, according to him, had no other purpose than to strengthen the adhesion between the wheel and the stake. Remains of mortar were detected at these places on wheels in the Museum of Candia, and there seem to be some slight traces of it on the specimen in the University Museum. On the analogy of the outfit used by itinerant potters in Crete today, of which a diagram is given in his article, and which is of a most primitive nature, M. Franchet believes that the base of the stake was pointed, a piece of stone with a natural depression was selected as a socket, in which it rested, and the whole apparatus was spun by the assistant, like a giant top, by means of a strap

or cord. The heavy wheel assured not only a long spin, but great stability, there being very little oscillation, resulting in the creation of vases of a more regular and symmetrical shape than if a lighter wheel were used.

It is not believed that the heavy wheel was always known to the Minoan potters. In fact, the first wheelmade vases show imperfections that point to an even simpler device. The heavy wheel seems to have been introduced in the period known as the Second Middle Minoan, or about 2000 B. C. This period is one of the greatest epochs in the history of the pottery of prehistoric Crete, and marks a most significant advance in technical skill over the age immediately preceding it.

All the facts mentioned above combine in proving very conclusively that these so-called tables of offering are really to be regarded as potters' wheels. In this object, therefore, we have what is probably the earliest potter's wheel to be found in any museum in the United States, from a country which, at the period of its use, and largely through the knowledge of the principles involved, towered above most of its neighbours in civilization and artistic feeling.

S. B. L.

NOTES

Gifts.

The following gifts have been received.

Mrs. William Lyttleton Savage, two Roman glass vases.

Mr. and Mrs. Hampton L. Carson, five lithographs of American Indians dated 1837.

Dr. William Pepper, one volume, Maximilian, Prince of Wied, TRAVELS IN NORTH AMERICA, two volumes, Garcillasso de la Vega, HISTOIRE DES INCAS, ROIS DU PEROU.

Purchases.

The following purchases have been made.

A gold collection from Ecuador.

A Cypriote head of a period about B. C. 600.

Two Chinese sculptures representing saddled horses from the Tomb of T'ang T'ai-Tsung.

Resignation.

Mr. John H. Mason has resigned his membership on the Board of Managers.

Publications.

Handbooks have been issued for the Mediterranean Section and the American Section. A Handbook of Primitive Art has been published to describe the exhibition of African and South Pacific Arts recently installed. A complete Catalogue of the Mediterranean Section has been published. An Important Kekchi Indian text from Guatemala has been published with an introduction, translation and extensive notes by Mr. Robert Burkitt.

Collections received.

Mr. Alexander Scott has returned from India bringing with him the purchases which he made on behalf of the Museum and the Museum has received from Mr. Robert Burkitt the collections which he has made among the Indians of Guatemala. These include numerous examples of the weavings of the different tribes and models showing their occupations.

New Exhibits.

The collections of South American gold have been placed on exhibition in the American Section which has undergone extensive rearrangement.

In the east wing of the first floor there has been installed an exhibition of Mohammedan Art made up chiefly of the objects obtained in Cairo and Damascus in 1919 by the Director. It includes mosaic work, tiles, carved and inlaid woodwork, an illuminated Koran, glass, textiles and pottery. The arts represented in this collection are both Eastern and Western Mohammedan. It includes a group of Fostat pottery as well as pottery from sites in Persia and Mesopotamia.

In the same wing of the Museum there has been arranged a new exhibition of the decorative and industrial arts of the African Negro and of peoples of the South Pacific. The third hall of this wing will be occupied by an entirely new exhibition of North American Indian basketry.

There has been placed on exhibition in the Oriental Section a group of Japanese lacquers deposited by Captain Mitchell MacDonald who also deposited the six Japanese screens which have been long on exhibition

Lectures.

The Saturday afternoon lectures began on November 3d with the usual full attendance. The program for the year 1920-21 with the exception of the March dates, which have not yet been announced, is as follows.

- November 6. Charles Theodore Carruth, The Art of Giotto. The Story of St. Francis.
- November 13. Charles Theodore Carruth. The Art of Giotto. Giotto at Padua.
- November 20. William Curtis Farabee. Iceland, The Country and its People
- November 27. Charles Wellington Furlong. The Lost Kingdom of Montenegro.
- December 4. George Byron Gordon. A Post-War Pilgrim in the Holy Land.
- December 11. Donald B. MacMillan. Among the Polar Eskimo.
- December 18. Ales Hrdlicka. The Peoples of Asia.

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- January 8. David M. Robinson. War Memorials Past and Present.
January 15. George Byron Gordon. The Eckley B. Coxe, Jr. Egyptian Expedition.
January 22. Clement Heaton. The Origins of Mediaeval Art.
January 29. W. B. Dinsmoor. The Restoration of Greek Buildings.
February 5. Fred Payne Clatworthy. Pictures of the West.
February 12. David George Hogarth. The Hittites in Asia Minor.
February 19. David George Hogarth. The Greeks in Asia Minor.
February 26. David George Hogarth. The Situation in the Near East.

The Wednesday afternoon course of lectures for school children were begun on October 6 and were continued until December 15. The demand for these lectures is increasing on the part of the teachers in the Public Schools so that each of the lectures has been repeated on successive afternoons. A further lecture program for the schools will begin in March.

Arrangements have been made for public lectures in the Auditorium of the Museum on Sunday afternoons beginning with the Sunday before Christmas. These lectures are regularly announced in the daily papers.

Docent Service.

The Docent service in the Museum has been resumed.

New Members.

The following members have been elected

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